

GLAMORGAN COUNTY COUNCIL.

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# ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR THE YEAR 1905,

INCLUDING A

Summary of the Annual Reports of the District Medical  
Officers of Health.

BY

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# Glamorgan County Council.

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*To the Chairman and Members of the Sanitary Committee.*

GENTLEMEN,

I have the honour of submitting to you my Annual Report for the year 1905 on the health and sanitary condition of the Administrative County of Glamorgan, together with a summary of the Reports of the District Medical Officers of Health.

The arrangement of the subject matter is the same as that adopted in previous reports, so that the series may be uniform for the purpose of comparison.

This Report would have been ready earlier had all the reports been received within the allotted time. Out of a total of 33 reports received from the District Councils and Port Sanitary Authorities, only three reached me within *six* weeks from the 1st of January, 19 before the end of March, and two as late as May 18th.

It is considered by the Local Government Board that the Medical Officer of Health ought not, in general, to have any difficulty in preparing his Annual Report within *six weeks*, but if, from any special circumstances, it cannot be completed within this period, it should be presented within at least *three months* from the end of the year, and had this been the case the County Report would have been issued by the June meeting.

All the District Reports were on this occasion printed in book or pamphlet form, but there is still need of greater uniformity in their sizes, &c., and I would repeat the suggestion that :—

- (1) *All Reports be printed in demy octavo, i.e., 8½ by 5½ inches.*
- (2) *All Statistical Tables be printed and appended.*

From Aberdare *no* Annual Report was received, but four quarterly reports only, as usual.

In several instances the tables are simply filled in and fastened to the Reports. These tables, when properly filled up, are most valuable, and they should be printed and included in such a way as to form a part of the Report.

A large number of Special Reports were received, especially those dealing with School Closure, but I would again call attention to the fact that a copy of every Special Report must be sent, not only to the Local Government Board, but also to the *County Council*.

The question of the provision of Isolation Hospitals has continued to make considerable progress, and in a very short time there will not be a district in the County without means of isolating the infected sick.

The work carried out at the Cardiff and County Public Health Laboratory continues to make satisfactory progress, and is much appreciated by District Councils and some medical men.

A considerable amount of time was devoted to the administration of the Midwives Act, 1902, and the supervision of Midwives and their work, and I am inclined to think that the Midwives now understand that the various provisions of the Act must be strictly observed.

During the Session the County Council promoted a Bill in Parliament, "The Glamorgan and South Wales Water Bill," which, as amended in Committee, has received the Royal assent.

There are several matters that yet require attention by the Sanitary Committee, viz. :—The consideration of :—

- (1) The sanitary inspection of Schools.
- (2) The medical inspection of scholars.
- (3) The provision of Sanatoria for the *poorer* consumptives.
- (4) The veterinary inspection of dairy cattle and cowsheds.
- (5) The inspection of meat and other articles of food.
- (6) The amendment of the Rivers' Pollution Prevention Acts, or the promoting of a Bill with a view of obtaining a Special Act.
- (7) The utilisation of the powers conferred upon the County Council by "The Glamorgan and South Wales Water Act."

Although the County Council has no direct control over several of the above, yet much can be achieved by urging and helping local authorities to carry out their duties.

The weekly returns of infectious diseases were regularly received, and I take this opportunity of thanking the Medical Officers of Health for their cordial co-operation in this and other matters.

Colonel Henry Lewis, the Chairman of the Sanitary Committee, has rendered great assistance by frequently accompanying me on visits of inspection and inquiry, and his presence at all times has been productive of much good.

The work of the Public Health Department increases steadily, and especially the correspondence in connection therewith.

I am pleased to say that the relationship existing between myself and staff, and the District Medical Officers of Health, and Medical Practitioners in the County, is of a most cordial character.

I take this opportunity of expressing my great appreciation for the continued support and assistance I have received from the Chairman of the Council, and from the Chairman and Members of the Sanitary and other Committees.

I have the honour to be, Gentlemen,

Your obedient Servant,

**W. WILLIAMS.**

THE COUNTY HEALTH DEPARTMENT,  
9, THE PARADE, CARDIFF.  
28th July, 1906.

# PART I.

## THE ADMINISTRATIVE COUNTY.

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### STATISTICS.

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#### AREA AND POPULATION.

There has been no change in the area of the Administrative County during 1905, and the Sanitary Districts remain the same in number and extent as they were at the end of 1904, and are made up of 12 Urban and 9 Rural Districts.

The population of the Administrative County, according to the Census, 1891, was 467,954. At the time of the Census, 1901, it was 601,092, thus showing an increase for 10 years of 133,792, or 28·6 per cent.

The estimated population of the Administrative County, mid-year 1904, was 649,797, and at mid-year 1905, was 669,193, showing an increase for one year of 19,396, of 2·98 per cent. for 1 year.

Different methods of estimating the population are made use of by various Medical Officers, and such estimates are difficult to make in a County like Glamorgan, where it is common to find large centres of population where a few years ago there was scarcely a house.

The following Table shows the growth of population in the Administrative County from 1891 to 1901, the population in each succeeding year being calculated in geometrical progression. The figures for 1902, 1903, 1904, and 1905, represent the estimated population for these years respectively.

TABLE I.

Census.	Population.					Excess of Births over Deaths.
1891	..	..	467,954	..	..	Not known.
1892	..	..	479,816	..	..	..
1893	..	..	491,984	..	..	10,012
1894	..	..	504,456	..	..	8,882
1895	..	..	517,246	..	..	8,995
1896	..	..	530,360	..	..	10,551
1897	..	..	543,805	..	..	10,128
1898	..	..	557,592	..	..	10,739
1899	..	..	571,730	..	..	8,385
1900	..	..	586,225	..	..	10,939
1901	..	..	601,087	..	..	10,194
1902 (estimated)	..	..	614,726	..	..	12,527
1903	..	..	631,398	..	..	13,137
1904	..	..	649,797	..	..	12,781
1905	..	..	669,193	..	..	12,410

Unfortunately the number of births and deaths in the County for the whole of this period is not known, for *all* the District Reports were not sent to me prior to 1894. The average annual excess of births over deaths during the 13 years (1893-1905) was 10,680. This number  $10,680 \times 13 = 138,840$ , which number represents approximately the increase in the population caused by the excess of births over deaths during this period.

The actual increase during this period, however, was 177,209, so that  $177,209 - 138,840 = 38,369$ , which number represents the increase brought about by immigration to the County, mostly of young adults seeking employment at the various mines and works in consequence of the depressed state of agriculture and the inducement of better wages offered.

## BIRTHS

There were 24,080 births registered in the Administrative County during 1905. This is equivalent to a birth-rate of 35·9. Of these, 17,958 occurred in Urban, and 6,122 in Rural Districts, giving a birth-rate for the former of 36·48, and for the latter of 34·63. The birth-rate shows a slight decrease as compared with 1904.

The local rates are given in Table I (Appendix), but the information as to sexes is incomplete in the Reports from Glyncorwg, Neath Borough, Oystermouth, Gower, and Llantrisant and Llantwit Fardre.

Among the individual Districts the birth-rates vary from 46·0 to 15·8; the highest being 46·0 in Ogmore and Garw; 42·0 in Llantrisant and Llantwit Fardre, 41·53 in Glyncorwg; 41·1 in Caerphilly and Mountain Ash; 40·28 in Neath; Rural, 39·0 in Aberavon; 38·8 in Gelligaer and Rhigos; 38·0 in Merthyr Tydfil; 37·3 in Maesteg and Rhondda.

As is usual, the birth-rates are highest in the industrial and mining Districts, and lowest in agricultural and residential Districts.

The birth-rate in England and Wales was 27·2 per 1,000 of the population, which is 0·7 per 1,000 below the rate of 1904, and lower than the rate in any year on record; compared with the average in the 10 years 1894-1903, the birth-rate in 1905 shows a decrease of 1·8 per 1,000.

A decrease of 0·80 per 1,000 has taken place in the County during the same period.

This relatively high birth-rate, as explained in previous Reports, is, doubtless, accounted for by early marriages, the preponderance of young adults consequent upon the large proportion of artizan population in the County. Amongst other causes, the birth-rate exerts an influence on the death-rate, which is frequently overlooked, but the fact should not be lost sight of that any circumstances which lower the birth-rate will, *cæteris paribus*, for many years tend to lower the death-rate, and *vice versa*.

In the following Table are given the mean figures for the County for seven years (1893-1899), and for England and Wales for the 10 years (1890-1899), together with the rates for 1900, 1901, 1902, 1903, 1904 and 1905.



TABLE II.

YEAR.	Birth-rate per 1,000 Population.			
	Glamorgan.			England and Wales.
	General.	Urban.	Rural.	
1893-1899	37·55	39·11	33·55	30·0 (1890-1899)
1900	35·58	37·58	31·39	28·7
1901	36·8	38·04	33·7	28·5
1902	37·8	39·15	34·32	28·6
1903	36·9	37·6	34·90	28·4
1904	36·6	37·3	34·79	27·9
1905	35·9	36·48	34·63	27·2

From this it will be seen that the County birth-rate is far in excess of the average for England and Wales, and that there is not a great difference between the birth-rate in the Urban and that in the majority of our so-called Rural Districts.

## DEATHS.

GENERAL MORTALITY.—The total number of deaths registered was 11,670. Of these, 8,859 occurred in Urban, and 2,811 in Rural Districts ; giving death-rates of 17·99 and 15·87 respectively. The equivalent General Rate is 17·43, which is 2·23 higher than the average death-rate for England and Wales, and 1·73 higher than that of the 76 great towns.

The number of deaths registered of persons belonging to the County, as far as could be ascertained, was 11,612, which is equivalent to a nett death-rate of 17·3. The nett death-rates range from 10·8 to 22·0.

Below are given comparative figures for the County for 1893-1899, and 1900-1905, and for England and Wales for the 10 years 1890-1899 and 1900-1905.

TABLE III.

	ANNUAL RATE OF MORTALITY PER 1,000 POPULATION.						
	Mean of 10 years, 1890-99.	1900.	1901.	1902.	1903.	1904.	1905.
England and Wales	18·3	18·2	16·9	16·3	15·4	16·2	15·2
Town Districts	19·1	18·9	17·8	17·4	15·45	17·2	15·7
Country Districts ..	16·7	16·6	15·7	15·3	14·8	15·3	14·9
*Glamorgan ..	19·2*	18·6	19·5	17·4	16·11	16·9	17·43
Urban Districts ..	20·3*	19·6	20·65	18·34	16·38	17·6	17·99
Rural Districts ..	16·6 *	15·9	16·52	15·14	15·37	15·2	15·87

\* The period covered by the Glamorgan rates is seven years—1893-1899—as no returns were available before.

In small Districts there are always considerable fluctuations of death-rates from year to year, whereas in populations of 1,000 and upwards these fluctuations are not so marked. In residential and suburban Districts low birth and high death-rates prevail, owing to the excess of unmarried adults in these places. It is erroneous to suppose that certain Districts, because they happen to have low death-rates, are healthy.

Arranged in the order of their nett death-rates, the Districts stand thus :—

Merthyr Tydfil .. .. .	22·0	Llangyfelach Division .. ..	15·4
Glyncorwg .. .. .	21·6	Aberavon .. .. .	15·1
Rhondda .. .. .	19·2	Pontardawe West .. .. .	15·0
Caerphilly .. .. .	18·7	Briton Ferry .. .. .	14·5
Pontypridd .. .. .	18·5	Penybont .. .. .	14·40
Aberdare .. .. .	18·33	Llandilo Talybont .. .. .	13·9
Gelligaer and Rhigos .. ..	17·8	Margam .. .. .	13·8
Llantrisant and Llantwit Fardre .. ..	17·6	Llandaff and Dinas Powis .. ..	13·66
Mountain Ash .. .. .	17·4	Oystermouth .. .. .	13·57
Neath Rural .. .. .	17·39	Porthcawl .. .. .	12·9
Pontardawe East .. .. .	17·2	Penarth .. .. .	12·8
Maesteg .. .. .	16·5	Barry .... .. .	12·69
Gower .. .. .	16·3	Neath Borough .. .. .	12·4
Bridgend .. .. .	15·95	Cowbridge Rural .. .. .	12·3
Ogmore and Garw .. .. .	15·7	Cowbridge Borough .. .. .	10·8

Of the total deaths registered, 4,020 were those of children under one year, and 1,808 of children one year of age and under five years. This is equivalent to 34·4 and 15·4 per cent. respectively.

#### INFANTILE MORTALITY.

Of every 1,000 children whose births were registered, 166 died before completing the first year of life, compared with 176 in 1904. This is one of the most unsatisfactory features of the vital statistics for the year, and it was probably due to various causes, amongst others the warm weather experienced during the third quarter of the year.

The various Sanitary Districts are tabulated below in order of their Infantile Mortality rate :—

Merthyr Tydfil .. .. .	204	Briton Ferry .. .. .	140
Rhondda .. .. .	199	Oystermouth .. .. .	135·33
Aberdare .. .. .	198·1	Llantrisant and Llantwit Fardre .. ..	135
Pontardawe East .. .. .	195·9	Porthcawl .. .. .	127·6
Mountain Ash .. .. .	191·07	Penybont .. .. .	124·2
Pontypridd .. .. .	181	Pontardawe West .. .. .	118·2
Caerphilly .. .. .	166	Barry .. .. .	115
Maesteg .. .. .	162·4	Bridgend .. .. .	114·8
Aberavon .. .. .	162	Llandilo-Talybont .. .. .	110
Glyncorwg .. .. .	159·2	Neath Borough .. .. .	107·2
Gelligaer and Rhigos .. ..	153	Penarth .. .. .	106·8
Neath .. .. .	150	Cowbridge Rural .. .. .	105·2
Margam .. .. .	148·14	Llandaff and Dinas Powis .. ..	99·0
Llangyfelach Division .. ..	147	Gower .. .. .	88·5
Ogmore and Garw .. .. .	143·2	Cowbridge Borough .. .. .	52·6

These rates vary from 52·6 to 204.

In three districts the rate was under 100, in 18 under 150, and in 11 above this figure.

For England and Wales the average rate was 128; 140 in the 76 great towns, 132 in 141 smaller towns, and 113 in England and Wales less the 217 towns.

Below is given an epitome of the views expressed by the Medical Officers of the various Districts on this matter.

The Medical Officer of Health of Aberavon writes :—" Poverty, overcrowding and insanitary conditions of the homes of the working classes are very potent causes of a high rate of infant mortality. . . . . It only remains to discuss the influence of intemperance—the curse of alcoholism by bringing about poverty, by blunting the parental affections, by causing neglect and deprivation of food, is in every town like ours a strong and constant evil, and contributes its quatum to the massacre of the innocents ; but we can be thankful for the good work of the National Society for the Prevention of Cruelty to Children in our midst in trying to check the potency for evil of this, the greatest of all evils."

The Medical Officer of Health for Barry writes :—. . . . . " During the past 10 years no less than 1,410 deaths have occurred under one year of age, and a large proportion of these have been from ignorant and improper feeding. Diarrhoea is one of the chief causes of infantile mortality, and more frequently found in bottle-fed babies than those fed from the mother's breast. Diarrhoea seldom occurs among infants fed from the breast. . . . . "

The Medical Officer of Health for Bridgend writes :—" . . . . . The death-rate of infants under one year maintains the decline noticeable in 1901, and is the lowest, except 1892 and 1894, of the preceding 19 years, and below the rate of 1903 and 1904."

The Medical Officer of Health for Briton Ferry writes :—" An analysis of the deaths registered shows that there were 35 of children under one year old. This gives an infantile mortality, per 1,000 births for the year, of 140, as against an infantile mortality of 40 for the previous year, with a rate per 1,000 births of 152·6. The average infantile mortality for the 10 years previous to 1905 being 43, with an average rate per annum of 170 per 1,000 births. It will be seen from the above that the infantile mortality for the year 1905 is considerably below the average. The infantile deaths for the year number slightly more than a third of the whole number of deaths."

The Medical Officer of Health for Caerphilly writes :—" . . . . . Mother's milk is too often substituted by some other, and what was ordained by Providence to be the means of bringing up the infant is discarded, and often for the sake of convenience artificial means are adopted. The bottle with its long rubber tube and its fermented and decomposed contents is given to the poor ignorant babe. This soon gives rise to gastric disturbance, sickness and diarrhoea often follow, and if not these atrophy or wasting. To remedy this state of things, it would be a good plan for our Registrar of Births to give out a leaflet to each parent when recording the birth of the child, recommending certainly the discarding of this form of bottle, and also giving some instructions as to the preparation of artificial foods suitable for the digestion of the young. . . . . "

The Medical Officer of Health for Cowbridge Borough writes :—" . . . . . It is satisfactory to notice that the infant mortality is considerably diminished—but one death was registered for children under 12 months old. This makes the infant mortality rate 52·9 per 1,000 births registered. In my last report I had to record a rate of 250, the highest recorded for many years."



The Medical Officer of Health for Maesteg writes :—" Although infant mortality has been gradually decreasing during the past few years in England and Wales, we cannot congratulate ourselves on a similar result in Maesteg, since the rate this year (162·4) is higher than it has been since 1899. . . . . When, from circumstances, the mother is unable to rear the child on the breast, irregular feeding, imperfect cleansing of bottles, rubber tubes, milk, and the diluent in wrong proportions are some of the factors that lead to Diarrhœal and Wasting Diseases. I would again suggest, as in a former report, that printed leaflets should be given to parents at the time of registration of birth, containing the necessary information as to the proper feeding and clothing of infants."

The Medical Officer of Health for Merthyr Borough writes :—" To diminish the terrible infantile mortality, I would recommend that when we become a County Borough a Lady inspector should be appointed ; she should also act as inspector of midwives. Her work as inspector would consist largely in visiting recent mothers, and advising them as to the proper feeding and hygiene of the children. As indicated in previous reports, improper feeding, due to ignorance of mothers, is at the root of a large part of the infantile mortality that prevails in this district, and as a further aid to combat this ignorance it would be well if the teaching of the subject of domestic hygiene and economy was considerably extended in day and night schools."

The Medical Officer of Health for Ogmore and Garw writes :—" . . . . . The Diarrhœal Diseases are frequently caused by injudicious feeding of infants. By far the greater number of diarrhœal cases occur in bottle-fed infants, and more of these occur in infants fed by bottles with long rubber tubes. . . . . I fear that the practice of feeding infants by bottles is on the increase, even among the working community. Such shirking of maternal duties cannot but have a deleterious effect upon the general physique of our future children. . . . . "

The Medical Officer of Health for Oystermouth writes :—" This serious loss of infant life has been recognised everywhere to be mainly due to faulty feeding ; and to combat this human wastage a leaflet containing a few simple instructions has been issued during the past quarter, and will henceforth be distributed with the vaccination and birth certificates at the time of registration to parents or guardians by the District Registrar. As this information does not reach the majority of those parents whom it is chiefly intended for till the children are about six weeks old, it may be desirable in the future to arrange with the district midwives to convey these instructions to their patients and to forthwith report every birth conducted by them to the Jubilee Nurse in order that she might call upon these cases within the first day or two of life and offer her services to the mother and to the midwife in attendance."

The Medical Officer for Penarth writes :—" One satisfactory feature is the diminution in the number of deaths among infants, especially from Enteritis. Whether or no this is due to any enlightenment on the part of the public in regard to infant feeding owing to the issue of the cards of instruction sanctioned by my Council a year ago, the fact remains that these cards have awakened great interest in this vital subject ; and so great has been the demand for them that the issue of a second 500 was necessitated some months ago."

The Medical Officer for Pontypridd writes :—" . . . . . It may safely be stated that a large proportion of the 45 children who died of Diarrhœa had been artificially fed upon cows' milk. It is therefore a matter of the greatest importance that every attention should be paid in the direction of securing a pure and wholesome milk supply for the District."



The Medical Officer of Health for Gelligaer and Rhigos writes :—" There is no doubt that the question of infantile mortality is closely connected with that of infant feeding ; improper feeding causing many deaths from gastric and intestinal disorders."

The Medical Officer of Health for Llantrisant and Llantwit Fardre writes :—" . . . . . It is frequently manifest that many young mothers have not the slightest idea how to feed or manage their infants. As a remedy against the latter difficulty, the State might make it compulsory that every woman, before being allowed to marry, should pass an examination on infant feeding and management."

The Medical Officer of Health for Pontardawe East writes :—" The worst feature of the year is the high mortality among children under one year old—the rate being equivalent to 195 per 1,000 births. . . . Seeing that death, in many of the cases, is due to disordered digestive organs, one is justified in attributing among other causes this high infantile mortality to unhealthy surroundings, with neglect and ignorance in nursing and feeding. As artificial feeding has of recent years become so common a practice, and in order that it should be carried out with care and intelligence, I think more prominence should be given to its management, even to have it adopted as a subject to be taught in the elementary schools, at least to the senior scholars before leaving."

The Medical Officer of Health for Pontardawe West writes :—" Of the total number of deaths, 55 were registered as being under one year old ; this gives us an infantile mortality rate of 118·2 per 1,000 births. This is much too high, and until a better knowledge of how much quantity of proper food the baby should have or take at a time, and also what interval ought to be allowed between each meal, and not on any consideration whatever to feed the child through an india-rubber tubing, which, as I have repeatedly proved, can never be kept sweet and clean, however careful the nurse may be, our teaching will continue to be of little good, and our infantile mortality rate will continue to be high."

The Medical Officer of Health for the Llangyfelach Division of Swansea Rural District writes :—" . . 16 deaths were ascribed to convulsions, and as convulsions are often due to digestive disorders, I had special inquiries made as to the feeding in each of those cases, and found that five were solely breast-fed, one died without being fed at all, five were fed partly on the breast and partly on cows' milk, two wholly on cows' milk, one on condensed milk, and two partly on cows' milk and partly on patent foods. . . . . The infantile mortality figures taken as a whole do not point in the direction of improper feeding being an important factor in this locality."

At the Conference on Infantile Mortality, recently held in London under the presidency of the Right Honourable John Burns, President of the Local Government Board, a resolution was passed, declaring the appointment of qualified women especially trained in the hygiene of infancy to be necessary as an adjunct to public health work. The other resolutions passed included the following :—

- " That the Education Department be urged to add to their present scheme for systematically training girls in the senior classes in the practice and principles of personal hygiene, the elements of dietary, with special instruction in respect to the rearing of infants."
- " That, in view of the information submitted, the Conference is of opinion that all still births should be notified within 48 hours to the medical officer of health of the district in which they occur, and no burial shall take place without a medical certificate."
- " That in the opinion of this Conference the question of the insurance of infants under twelve months is one demanding serious consideration, and that with a view to obtaining reliable information the Government be asked to appoint a departmental committee to inquire into the whole question."

“That the period of one month’s abstention from work away from home now imposed on mothers be extended to at least three months, and that, on their return to work, evidence must be produced to the local authority that proper provision has been made for the care of the child.”

“That no employer of labour shall permit a woman advanced in pregnancy to engage in factory labour unless her ability therefor has been certified to the satisfaction of the local authority.”

At the close of the Conference it was agreed to form an Executive Committee to give effect to the above resolutions.

### ZYMOTIC DISEASES.

Small Pox, Measles, Scarlet Fever, Membranous Croup, Whooping Cough, Fever (including Typhus, Enteric and other continued) and Diarrhoea.

The seven principal epidemic diseases caused 1,726 deaths, which is equivalent to a County rate of 2·57, as compared with 2·29 for 1904 and 1·52 for England and Wales.

The number of deaths attributed to the several diseases are given below :—

TABLE IV.

DISTRICTS.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria and Membranous Croup.	Whooping Cough.	Fever.	Diarrhoea.	Total.
Urban .. .. .	—	458	85	100	196	73	495	1,407
Rural .. .. .	—	113	22	72	50	21	41	319
Administrative County ..	—	571	107	172	246	94	536	1,726

Arranged in the order of their zymotic death-rates the various Districts stand thus :—

Merthyr Tydfil .. .. .	4·6	Pontardawe West .. .. .	1·77
Pontypridd .. .. .	4·46	Penybont .. .. .	1·76
Glyncorwg .. .. .	4·0	Margam .. .. .	1·42
Gelligaer and Rhigos .. .. .	3·8	Cowbridge Rural .. .. .	1·4
Caerphilly .. .. .	3·2	Penarth .. .. .	1·3
Bridgend .. .. .	3·10	Neath Borough .. .. .	1·2
Aberdare .. .. .	2·95	Llandaff and Dinas Powis .. .. .	1·18
Rhondda .. .. .	2·8	Pontardawe East .. .. .	1·0
Llantrisant and Llantwit Fardre .. .. .	2·72	Barry .. .. .	0·9
Ogmore and Garw .. .. .	2·63	Cowbridge Borough .. .. .	0·83
Maesteg .. .. .	2·2	Porthcawl .. .. .	0·83
Mountain Ash .. .. .	2·18	Gower .. .. .	0·82
Neath Rural .. .. .	1·99	Aberavon .. .. .	0·63
Llangyfelach Division .. .. .	1·85	Llandilo-Talybont .. .. .	0·23
Briton Ferry .. .. .	1·8	Oystermouth .. .. .	0·00

In the following Table are given the annual death-rate from *All Causes*, and the *Principal Zymotic Diseases* for the County, and for England and Wales, during the year 1905 :—

TABLE V.

DISTRICTS.	All Causes.	Principal Zymotic Diseases	Small Pox.	Measles.	Scarlet Fever.	Diphtheria and Membranous Croup.	Whooping Cough.	Fever.	Diarrhoea.	Deaths under one year per 1,000 Births
England and Wales .. ..	15·2	1·52	0·00	0·32	0·11	0·16	0·25	0·09	0·59	128
76 Great Towns .. ..	15·7	1·88	0·00	0·39	0·13	0·16	0·29	0·08	0·83	140
141 Smaller Towns .. ..	14·4	1·50	0·00	0·31	0·11	0·15	0·23	0·13	0·57	132
England and Wales <i>less</i> the 217 Towns .. ..	14·9	1·09	0·00	0·24	0·09	0·15	0·20	0·09	0·32	113
Glamorgan .. ..	17·43	2·57	0·00	0·85	0·15	0·25	0·36	0·14	0·80	166
Urban Districts .. ..	17·99	2·85	0·00	0·93	0·17	0·23	0·39	0·14	1·005	178
Rural Districts .. ..	15·87	1·80	0·00	0·63	0·12	0·40	0·28	0·11	0·23	134

From the above figures it will be seen that the general death-rate for the County is 2·23 per 1,000 higher than England and Wales, 1·73 higher than the 76 great towns, and 2·53 higher than that for the 141 smaller towns.

The death-rate from the principal zymotic diseases is 1·05 higher than that for England and Wales, and 0·69 higher than that for the 76 great towns.

The death-rate from Small Pox is similar to that for England and Wales, viz., *nil*.

The death-rate from Scarlet Fever is practically the same as that for England and Wales, whereas those from Measles, Diphtheria, Fever and Diarrhoea are very much higher than those for England and Wales.

#### NOTIFICATION OF INFECTIOUS DISEASES.

The number of notifications received included *Small Pox* 21, *Scarlet Fever* 3,039; *Diphtheria and Membranous Croup* 1,454; *Enteric Fever* 615; *Continued Fever* 9; *Puerperal Fever* 68; and *Erysipelas* 576; making a total of 5,782 cases. Of these 427 or 7·3 per cent., proved fatal.

The number of notifications received furnishes a much better criterion for judging the prevalence of the various diseases than do the death returns; the two, however, enable one to ascertain the prevalence and type of the disease.

Through the courtesy of the Medical Officers of Health, I have received weekly, from every District, a return showing the number of cases of Infectious Diseases notified, and have published the same regularly by the middle of the following week, a copy being sent to each of the above, and also to the Medical Officers of Health of the local County Boroughs, the Local Government Board, and others.



In the following Tables are given the number of cases of Infectious Disease notified annually since 1893, together with the number of cases notified during each week of the year under review :—

TABLE VI.

In the following Table is given the number of cases of Infectious Disease notified during the period 1893-1905 :—

DISEASES.	Year 1893.	Year 1894.	Year 1895.	Year 1896.	Year 1897.	Year 1898.	Year 1899.	Year 1900.	Year 1901.	Year 1902.	Year 1903.	Year 1904.	Year 1905.
Small Pox ..	48	37	5	69	7	4	5	4	4	172	51	19	21
Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	2,378	1,726	2,760	3,781	3,029	1,280	2,046	4,348	6,826	4,360	4,484	4,445	3,039
Diphtheria ..	242	159	273	452	817	2,060	5,074	3,440	3,528	2,403	1,423	1,259	1,379
Membranous Croup	60	56	112	148	108	133	49	143	132	105	125	71	75
Erysipelas ..	348	377	439	437	530	478	503	457	814	720	555	494	576
Typhus ..	..	5	..	..	..	..	1	2	..	..	2	..	..
Enteric ..	825	703	748	665	652	840	1,487	1,150	913	682	952	809	615
Continued Fever	17	21	20	28	3	30	1	16	19	15	19	6	9
Relapsing „	..	..	..	..	..	..	..	..	..	..	4	..	1
Puerperal „	92	76	68	81	63	100	88	79	123	117	79	96	68

The above figures are useful for the purposes of comparison. There has been a great increase in the number of cases of Scarlet Fever notified since 1898, whereas there has been a gradual diminution in the incidence of Diphtheria.

TABLE VII.

In the following Table is given the number of cases notified during each week of the year 1905 :—

DISEASES.	JANUARY.				FEBRUARY.				MARCH.				APRIL.					MAY.				JUNE.				JULY.
	7.	14.	21.	21.	4.	11.	18.	25.	4.	11.	18.	25.	1.	8.	15.	22.	29.	6.	13.	20.	27.	3.	10.	17.	24.	1.
Small Pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever ..	95	72	56	55	81	56	70	68	52	52	43	49	59	47	58	57	47	76	38	49	88	68	57	57	59	68
Diphtheria ..	24	31	32	31	32	35	38	37	38	38	30	33	29	26	29	28	46	26	30	42	24	23	20	23	20	17
Membranous Croup	1	6	3	1	1	2	2	1	2	2	1	2	2	..	1	..	3	3	2	1	1	1	2	2	..	..
Erysipelas ..	14	9	10	15	12	10	4	10	13	17	8	13	3	11	9	8	4	7	10	14	10	14	11	13	6	8
Typhus ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric ..	6	11	9	10	13	19	11	9	10	16	14	7	12	12	11	8	8	10	12	6	12	35	20	21	9	12
Continued Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever ..	4	1	2	2	2	..	2	1	1	2	1	1	2	3	..	1	..	1	3	1	1	..	1	3	2	..

  

DISEASES.	JULY.				AUGUST.				SEPTEMBER.					OCTOBER.				NOVEMBER.				DECEMBER.				
	8.	15.	22.	29.	5.	12.	19.	26.	2.	9.	16.	23.	30.	7.	14.	21.	28.	4.	11.	18.	25.	2.	9.	16.	23.	30.
Small Pox ..	..	..	3	3	1	..	1	4	..	3	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever ..	55	39	35	53	30	39	61	37	63	60	58	42	69	41	57	40	42	59	50	57	47	19	63	50	48	37
Diphtheria ..	21	19	19	26	22	17	16	13	14	18	23	24	23	37	23	37	20	28	18	26	26	20	25	18	21	32
Membranous Croup	1	..	1	1	1	..	..	1	2	1	..	..	..	1	..	..	1	2	..	3	2	3	..	3	3	2
Erysipelas ..	9	14	5	10	7	8	9	3	8	6	7	14	17	12	9	4	11	4	17	20	15	18	16	13	17	10
Typhus ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric ..	7	11	12	8	9	10	11	18	14	14	24	14	19	15	21	13	5	3	5	3	3	11	3	7	9	1
Continued Fever ..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1
Relapsing Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever ..	4	1	1	1	..	1	..	..	2	4	..	..	1	..	1	..	1	2	1	..	..	1	1	1	..	..

## SMALL POX.

Twenty-one cases of Small Pox were notified as compared with 19 in 1904. The cases were distributed thus :—Barry, 5 ; Caerphilly, 3 ; Merthyr Borough, 1 ; Pontypridd, 10 ; Rhondda, 2. All the cases were removed to and treated at Hospitals.

There are at present 12 Small Pox Hospitals within the County, with accommodation for about 160 cases. Two more are in course of construction.

At present, the Districts *without* Small Pox Hospital accommodation are :—

- (1) Barry. An application has been made to the Local Government Board for sanction to a loan of £3,500. This has been granted, and the Hospital is approaching completion.
- (2) Llandaff and Dinas Powis. The much talked of arrangement between the Penarth District Council has not yet come to pass.
- (3) Mountain Ash. A site has been fixed upon, which I have inspected and approved ; it has not yet been acquired.
- (4) Aberdare. In abeyance.
- (5) Ogmore Joint. Building in course of erection.
- (6) Rhondda. A site has been inspected and acquired.

These will be further dealt with under "Isolation Hospitals."

## MEASLES.

Measles is notifiable in the Porthcawl and Llandaff and Dinas Powis Districts only, and there is therefore no correct information of the amount of sickness occasioned by this disease.

Judging by the number of deaths, and the reference made to this disease in the local summaries, it was prevalent in most Districts in the County, and to it are attributed 571 deaths, 458 in Urban, and 113 in Rural Districts. This is equivalent to a death-rate of 0·85—0·93 in Urban, and 0·63 in Rural Districts. The rate for England and Wales was 0·32.

The fact that Measles is probably infectious before the appearance of the rash is obviously an unfortunate element in the problem of the control, and, even if notification existed throughout the County, it is doubtful whether, with the present staff of Inspectors, much could be done in this direction.

In Rural Districts, on the other hand, much can be done whereby the extension of Measles through the invaded areas may be checked, by measures such as :—

- I. Information furnished by Sanitary Authorities to School Authorities (and *vice versa*) ;
- II. Exclusion from schools of members of households invaded by measles ; and by
- III. Judicious school closure.

## SCARLET FEVER.

The disease contributed 3,039 cases of illness and 107 deaths, as compared with 4,145 cases and 129 deaths in 1904.

This mortality is equivalent to a rate of 0·15—0·17 in Urban, and 0·12 in Rural Districts. The rate for England and Wales was 0·11. In the following Table are given the comparative figures for the

County for a period of eight years, 1893-1900; and for 1901, 1902, 1903, 1904 and 1905; and for England and Wales for the period of 10 years, 1891-1900, and for 1901, 1902, 1903, 1904 and 1905.

TABLE VIII.

YEAR.	Death-rate per 1,000 Population.			
	Glamorgan.			England and Wales.
	General.	Urban.	Rural.	
1893-1900.	0·17	0·18	0·14	1891-1900. 0·16
1901	0·22	0·2	0·15	0·13
1902	0·22	0·25	0·14	0·15
1903	0·25	0·28	0·15	0·12
1904	0·19	0·21	0·14	0·11
1905	0·15	0·17	0·12	0·11

The highest rates are recorded from Llangyfelach Division (0·65); Aberdare (0·58); Briton Ferry (0·57); Pontardawe West (0·50); Merthyr Tydfil (0·28); Pontypridd (0·25).

That the disease was of a mild character is shown by the fact that the ease mortality per cent. was 3·52.

Of the 3,039 cases, 136 *only* were removed to and treated at Infectious Diseases Hospitals. Indeed the majority of our existing Isolation Hospitals are sadly in need of accommodation for Scarlet Fever cases, and consist mostly of two pavilions, one for Enteric, and the other for Diphtheria cases.

Timely and efficient isolation of the first cases is of great importance, and should always be borne in mind. Other precautionary measures should also be enforced, such as the judicious closure of schools, and the adequate disinfection of the sufferers, the infected dwellings, and articles of bedding and clothing.

That the mortality is not a true index of the mischief of the ease in many diseases is particularly true in the case of Scarlet Fever, and the permanent injuries inflicted by this disease are many, and cannot be accurately traced; this fact alone is a strong reason for taking all possible precautions against the spread of the disease.

#### DIPHTHERIA AND MEMBRANOUS CROUP.

There were notified 1,451 cases, resulting in 172 deaths, as compared with 1,330 cases and 166 deaths in 1904. This mortality is equivalent to a rate of 0·25—0·23 in Urban Districts and 0·40 in Rural Districts. The rate for England and Wales was 0·16.



In the following Table are given comparative figures for the County, and for England and Wales, for the period of 13 years, 1893-1905.

TABLE IX.

YEAR.	Death-rate per 1,000 Population.			
	Glamorgan.			England and Wales.
	General.	Urban.	Rural.	
1893	0·27	0·23	0·32	0·29
1894	0·24	0·24	0·24	0·28
1895	0·39	0·27	0·27	0·25
1896	0·39	0·26	0·21	0·29
1897	0·45	0·45	0·24	0·24
1898	0·66	0·78	0·31	0·24
1899	0·79	0·92	0·41	0·29
1900	0·76	0·82	0·57	0·29
1901	0·82	0·87	0·69	0·29
1902	0·52	0·51	0·50	0·23
1903	0·36	0·31	0·48	0·18
1904	0·25	0·20	0·39	0·17
1905	0·25	0·23	0·40	0·16

The highest death-rates were recorded at Penybont and Pontardawe West (0·50) ; Llantrisant and Llantwit Fardre (0·41) ; Aberdare and Merthyr (0·29) ; Briton Ferry (0·28).

In the following page is shown in tabular form the *cases, deaths, case-rates, per 1,000 population case-mortality per cent., and death-rate per 1,000 population.*



*THE DISTRIBUTION OF DIPHTHERIA AND MEMBRANOUS CROUP  
THROUGHOUT THE COUNTY.*

TABLE X.

DISTRICTS.	Estimated Population, 1905.	Cases.	Deaths.	Case-rate per 1,000 Population.	Case- mortality per cent.	Death-rate per 1,000 Population.
URBAN.						
Aberavon .. ..	7,871	10	1	1·27	10·00	0·12
Aberdare .. ..	48,000	126	18	2·62	14·2	0·37
Barry .. ..	30,001	96	8	3·19	8·33	0·26
Bridgend .. ..	7,085	3	..	0·42	0·00	0·00
Briton Ferry .. ..	7,000	18	2	2·57	11·11	0·28
Caerphilly .. ..	21,500	69	5	3·20	7·24	0·23
Cowbridge (Borough) ..	1,200	..	..	0·00	0·00	0·00
Glyneorwg .. ..	7,500	12	2	1·6	16·6	0·26
Maesteg .. ..	21,123	7	1	0·33	14·2	0·04
Margam .. ..	10,500	37	..	3·52	0·00	0·00
Merthyr Tydfil (Borough) ..	73,848	132	22	1·78	16·60	0·29
Mountain Ash .. ..	37,000	45	8	1·21	17·7	0·21
Neath Borough .. ..	15,000	17	3	1·13	1·76	0·2
Ogmore and Garw .. ..	22,000	11	4	0·5	36·36	0·18
Oystermouth .. ..	4,713	1	..	0·21	0·00	0·00
Penarth .. ..	14,500	29	1	2·0	3·44	0·06
Pontypridd .. ..	35,942	101	9	2·81	8·91	0·25
Porthcawl .. ..	2,400	..	..	..	..	..
Rhondda .. ..	124,988	139	16	1·11	11·51	0·12
RURAL.						
Cowbridge .. ..	7,600	10	1	1·31	10·00	0·13
Gelligaer and Rhigos .. ..	25,150	342	30	13·59	8·77	1·19
Gower .. ..	7,266	1	1	0·13	100·00	0·13
Llandaff and Dinas Powis ..	25,327	53	7	2·09	13·2	0·27
Llantrisant and Llantwit Fardre .. ..	12,097	34	5	2·81	14·70	0·41
Neath .. ..	28,021	42	7	1·49	16·6	0·24
Penybont .. ..	15,891	55	8	3·46	14·54	0·50
Pontardawe :—						
East Division .. ..	10,670	5	..	0·46	..	..
West „ .. ..	12,930	26	6	2·01	[23·07	0·46
Swansea :—						
Llangyfelach Division ..	10,748	15	3	1·39	20·0	0·27
Llandilo-Talybont Division	21,320	18	4	0·84	22·22	0·18

There were no fatal cases of this disease in Bridgend, Cowbridge Borough, Margam, Oystermouth, Porthcawl, and Pontardawe East.

The following Table gives for the whole County, as a whole, particulars similar to those given for Districts in the previous Table.

On examining the figures given below it will be seen that—

Firstly—The number of cases has gradually increased from 1894-1899, when it reached its maximum. During 1900-1901, the number of cases was about the same, and since that time there has been a gradual diminution in the incidence of this disease.

Secondly—The case-rate per 1,000 population has rapidly increased year by year up to 1899, when it was 8·96, afterwards it has steadily dropped to 2·04. For the year under review it is 2·17.

Thirdly—The case-mortality per cent. has gradually decreased from 60·93 in 1894 to 9·58 in 1899, which is the lowest on record.

Fourthly—The death-rate for 1905 is the same as that for 1904 and 1894, being the lowest on record.

TABLE XI.

Year.	Population (calculated).	Cases.	Deaths.	Case-rate per 1,000 Population.	Case-mortality per cent.	Death-rate per 1,000 Population.
1893	491,984	302	137	0·61	45·36	0·27
1894	504,456	215	131	0·42	60·93	0·25
1895	517,246	385	220	0·76	57·14	0·43
1896	530,360	600	203	1·13	33·83	0·38
1897	543,805	925	271	1·70	29·29	0·49
1898	557,592	2,197	404	3·94	18·36	0·72
1899	571,730	5,123	491	8·96	9·58	0·85
1900	586,225	3,583	484	6·11	13·50	0·82
1901	601,088	3,660	495	6·08	10·78	0·82
1902	614,736	2,562	325	4·16	12·68	0·52
1903	631,398	1,718	228	2·72	13·27	0·36
1904	649,797	1,330	166	2·04	12·48	0·25
1905	669,193	1,454	172	2·17	11·89	0·25

It should be remembered that Diphtheria during recent years not only prevailed abnormally in Glamorgan, but also other Counties similarly constituted suffered most severely, such as Leicestershire, Monmouthshire, Staffordshire, of West Riding of Yorkshire, &c.

With regard to the decrease in mortality-rate there are probably several causes at work, viz. :—

- (a) The facilities offered to Medical Practitioners for the bacteriological diagnosis of this disease, thus bringing to light cases which otherwise would have remained undiagnosed.

The number of swabs examined during the year at the County Laboratory was 291, as compared with 270 and 271 in 1903 and 1904 respectively.

- (b) The more general use of antitoxin serum during recent years. The majority of Medical Practitioners use it in every case, and of its value there can be no doubt.

- (c) The disease has pervaded nearly the whole County since 1897.

### WHOOPIING COUGH.

As Whooping Cough is notified in the Llandaff and Dinas Powis District only, where there were 220 cases and 9 deaths, the extent of its ravages can only be measured by its death roll.

To it were ascribed 246 deaths as compared with 303 in 1904. This is equivalent to a death-rate of 0·36 as compared with 0·25 for England and Wales.

In the following Table are given corresponding figures and rates for the last 13 years :—

TABLE XII.

WHOOPIING COUGH.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Deaths .. ..	100	170	208	219	258	160	244	232	290	153	186	303	246
Death-rate .. ..	0·20	0·33	0·40	0·41	0·47	0·28	0·42	0·39	0·48	0·24	0·29	0·46	0·36

The highest death-rates are recorded from Caerphilly (1·20) ; Pontypridd (1·00) ; Margam (0·95) ; Briton Ferry (0·85) ; Llangyfelach Division (0·74) ; Glyncorwg (0·66) ; Cowbridge Rural (0·65) ; Llantrisant and Llantwit Fardre (0·49) Rhondda (0·44) ; and Bridgend (0·42).

No deaths occurred at Cowbridge Borough, Oystermouth, Gower and Pontardawe West.

Besides giving the deaths occasioned by this disease, in the majority of the Reports there is no other information. In addition to a large *direct* mortality, it is also the cause of a considerable *indirect* mortality annually, leaving the child an easy prey, especially to lung trouble and phthisis. This mortality could be much reduced if the disease was regarded more seriously by parents, and the patients more carefully nursed.

Owing to the long period of the infectivity of Whooping Cough, the disease is an extremely difficult one to prevent the spread of, and all that is practicable at present is that sanitary authorities and teachers in Elementary Schools should co-operate in preventing its spread.

## FEVER.

In Table IV. of the Local Government Board the term "Fever" appears at the head of the three columns, the sub-headings being "Typhus," "Enteric," and "Other Continued." To these diseases are attributed 94 deaths, viz. :—89 Enteric Fever, and 5 Other Continued.

## TYPHUS FEVER.

No cases of this disease occurred throughout the year.

## TYPHOID OR ENTERIC FEVER.

There were 615 cases of this disease notified, and 89 deaths attributed to this cause, as compared with 809 cases, and 95 deaths in 1904. This corresponds to a death-rate of 0·13.

The highest death-rates were recorded from Bridgend (2·25); Glyncoiwg (0·4); Llantrisant and Llantwit Fardre (0·33); Penarth (0·27); Cowbridge Rural (0·26); Pontardawe West (0·25); Gelligaer and Rhigos (0·19); Merthyr Tydfil (0·18); Gower (0·13); and Rhondda (0·12).

There were no deaths from this disease in Aberavon, Briton Ferry, Cowbridge Borough, Margam, Oystermouth, Porthcawl, Llandilo Talybont, Pontardawe East, and Penybont.

Particulars of the number of cases and deaths are given in Tables II. and III. (Appendix).

Particulars of the outbreaks that occurred during the year are given in the local summaries, and in my Quarterly Reports, and are not referred to at any length here.

In the following Table corresponding figures and rates are given for the past 13 years, 1893-1905—

TABLE XIII.

ENTERIC FEVER.		1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Administrative County.	Cases ..	825	703	748	665	652	840	1,487	1,156	913	697	993	809	615
	Deaths ..	194	105	105	99	93	105	215	173	146	123	127	95	89
	Death-rate ..	0·39	0·20	0·20	0·18	0·17	0·18	0·37	0·29	0·24	0·23	0·20	0·14	0·13
England and Wales.														
	Death-rate ..	0·228	0·159	0·17	0·16	0·15	0·18	0·19	0·17	0·21	0·10	0·13	0·09	0·09

The following references to the disease are worthy of attention :—

The Medical Officer of Health for Barry writes :—" . . . . . out of the 10 cases of Typhoid Fever notified four were imported, one being a sailor, and the other three had visited localities where the disease existed. Three deaths resulted from this malady."



The Medical Officer of Health for Bridgend writes :—“ . . . . . Enquiries into the question of the antecedent partaking of shell-fish produced negative results ; and in the matter of milk supply it was found that in only a few instances was the milk derived from the same source ; in all other cases milk was obtained from a separate source. The results of the enquiries negatived the presumption of either of these articles of food being in default. An additional Sanitary Inspector was appointed in July. The paramount necessity for his appointment is shown by the figures of his report. Out of the first 111 houses inspected 110 notices were served to repair defective drains, and up to the end of the year 224 notices were served out of 241 houses inspected.”

The Medical Officer of Health for Caerphilly observes :—“ Fortunately we had only four cases of this disease to deal with during the year. The first case occurred in the Ystrad Mynach Ward, and here there was strong reason to believe that the person was affected when he came into the district. He unfortunately succumbed. The second case was in the Aber Ward, and there was no assignable cause to be found. The two other cases were in the Town Ward, and on testing the drains a deplorable state of things was found. . . . . I maintain that it is of *vital* importance for us as an Authority to see that no ‘ jerry ’ work is carried out ; and were a careful watch maintained on these matters, as well as on the foundation of new buildings, we should have less diseases to contend with. Besides this it is most unfair to persons who might be induced to buy property and then to find in the course of a few months that the drains have all to be relaid again. . . . . ”

The Medical Officer of Health for Cowbridge writes :—“ The case of Enteric Fever occurred in August, and was demonstrated to be so by a process of physiological research. In this case all excrement and excreta were mixed with sawdust and destroyed by fire : in my opinion the most cleanly, best, and only safe way to deal with such cases. I am glad to say no rumours of cases of even a suspicious nature have since reached me.”

The Medical Officer of Health for Macsteg writes :—“ . . . . . During the year 46 cases of Enteric Fever were notified, and four deaths registered, as compared with nine notifications and one death in 1904. Out of the 46 cases, 23 were treated at the Isolation Hospital, viz., 11 from the Caerau Ward, 3 from the East Ward, and 9 from the West Ward.”

The Medical Officer of Health for Merthyr writes :—“ Of the total number of cases notified (95), 56 were removed to Hospital, of whom nine died. . . . . The heaviest incidence of the disease was in the Dowlais and Penydarren Wards.”

The Medical Officer of Health for Ogmore and Garw writes :—“ Only two cases of this fever occurred during 1905, as against five in 1904. Both cases happened at Blaengarw, one in Station Road and one in James Road. The patients had not been in contact with any infection. The analysis of the water, which had been taken from both places, shewed that the Station Road water was qualitatively unsatisfactory and shewing evidence of contamination. The James Road was a water of moderate quality. . . . . ”

The Medical Officer of Health for Penarth writes :—“ This epidemic, which consisted of 23 cases, excluding the doubtful ones which afterwards cleared up, lasted from September 6th to December 22nd. It affected almost the entire district of Cogan, the only cases outside that district being three in Penarth itself. Of the latter, one was the case of a Nurse who contracted the disease while assisting at the Hospital ; another was that of a sailor who contracted the disease at a foreign port. . . . . All the infected houses were supplied with Cardiff Corporation water. The whole of the drainage system of the

district was overhauled, but without discovering any defects sufficient to account for an outbreak of this nature. Such defects as were found have all been rectified. The milk supply was carefully inquired into, and it was ascertained that there was a case of illness at a local dairy. In view of the possibility of this turning out to be Typhoid, arrangements were made that no one from the house was to go near the cows, or take any part in the milking or selling. Two days later the case was notified as one of Enteric. The patient was at once taken to the Hospital, and the dairyman informed that he must, until a specified interval has elapsed, take no further part in the management of the dairy even if he did not go near the dwelling house, having regard to the danger of milk as a means of communicating the disease in question. Other than the possibility of this, no further points suggest themselves as a solution of the outbreak."

The Medical Officer of Health for Pontypridd writes :—"The number of cases of Enteric Fever reported during the year was 17, two of which had a fatal termination, as compared with 22 cases and one death in the previous year. . . . . Of the 17 cases notified 16 were removed to the Isolation Hospital, two of which died. These latter were in a very critical state on admission, and both died within five days. Every Ward was visited by the disease. The cases were all of a sporadic nature, and, with the above two exceptions, were promptly removed to the Hospital. This would probably account for the limitation of the disease within controllable areas."

The Medical Officer of Health for Porthcawl writes :—"One case was notified at Newton. The premises and the surroundings, drains, and water supply, were immediately inspected by the Sanitary Inspector and myself. The water supply was submitted for chemical and bacteriological examination. I was unable to trace the cause. The other case was a child brought to Porthcawl and who contracted the disease at Buxton."

The Medical Officer of Health for Rhondda observes :—" . . . . . Notwithstanding the fact that the Typhoid statistics pertaining to 1905 were unfavourably affected by the continuation into that year of a very serious typhoid epidemic, the total number of notified cases of this disease was the lowest since the adoption in 1894 of the Infectious Diseases (Notification) Act 1889. At least 24 of the total of 108 cases can fairly be described as belonging to that epidemic, although they must be included with the statistical records pertaining to the year 1905. As showing the influence of the epidemic upon the figures for the year, it may be stated that 54 cases, or exactly one half of the year's total, occurred during the first quarter, and 35 of these lived in houses situated within the well defined limits of the epidemic. In point of deaths, also, the year 1905 established a record since the year 1878, for the nearest approach to the 16 deaths contributed by the year under review, is the death-roll of 20 belonging to 1890. . . . . The incidence of the disease was '86 in every 1,000, or 1 in every 1,157 of the population living. . . . . "

The Medical Officer of Health for Cowbridge Rural writes :—"Seven cases of Typhoid Fever—including two deaths—were reported from Brynna, Gilestone, Llanharan, and Llantwit Major. In two instances the disease appeared to have been contracted in Bridgend, and in another from the use of impure water. The other outbreaks could not be definitely traced."

The Medical Officer of Health for Gelligaer and Rhigos writes :—"Enteric Fever accounted for five deaths, compared with four in 1904. The number of cases notified was 38, so that 13 per cent. of the cases proved fatal. . . . . "

The Medical Officer of Health for Llandaff and Dinas Powis writes :—"Eight cases were notified, and one proved fatal. The case mortality was 12·5 per cent, and the death-rate was equal to ·03 per 1,000

living. As a matter of fact the fatal case was caused from complications following an attack of Typhoid in the previous year..... ”

The Medical Officer of Health for Neath Rural writes :—“ There was an outbreak of Enteric Fever April in and around Glyn Neath. The patients were nearly all men working in the Pwllfaron Colliery, and I believe that the disease originated in the water supply, the men when at work being in the habit of drinking from a waterspout near the colliery. This water came through an open water-course from a pond a short distance away, which was found at certain times to contain a mass of decayed vegetable matter, and to be open to pollution by sheep and cattle. The Colliery Owners have promised to give the men another water supply.”

The Medical Officer of Health for Penybont writes :—“ There was no death from Enteric Fever, as compared with two deaths in 1904, one in 1903, no death in 1902, two deaths in 1901, and one in 1900.... Of the four cases, one was at Aberkenfig, one Tondy, one at Penprisk, and one at Pyle; these four cases were widely separated in time and place, and not connected with further outbreak. The local sanitary conditions are inspected in all cases, and any defects found reported. Disinfectants are left at the houses, and leaflets with instructions given as to the precautions to be taken..... ”

The Medical Officer of Health for Pontardawe West observes :—“ Seven cases of this fever were notified, and the disease proved fatal in three. The history of these cases I have already in my Quarterly Reports laid before you ; at the time of writing, it is my good fortune and pleasure to be able to state that there is not a single case of this much dreaded disease under observation throughout the district.”

The Medical Officer of Health for Llangyfelach Division writes :—“ This year we had an exceptional number of cases—16 in all—14 in Clase and two in Llansamlet. We had but one death in Llansamlet. All the cases were promptly removed to our Infectious Hospital at Garngoch, where each made a good recovery. During the outbreak and subsequently I came to the conclusion that the water and the milk were free from blame ; that I had rather to deal with the local conditions, and on examination of the drains at the backs of the houses I soon satisfied my mind that from the faulty manner in which the drains had been laid, and more particularly the defective way the gullies were constructed, that we had enough defects here to account for the early cases. I made full reports at the time of the stoppage of the drains—of evidence of broken pipes and escape of the sewage, &c. I then recommended that you should undertake to take up about half the length of the pipes, relay them under the skilled supervision of your Surveyor, and see that each gully was carefully relaid in cement for some two feet in circumference. It is gratifying for me to be able to report that your Board promptly complied with this suggestion. We have gone through an autumn and winter, and so far not a single fresh case of fever has been reported.”

The Medical Officer of Health for Llandilo-Talybont writes :—“ Six cases of Typhoid Fever were notified during 1905, and there were no deaths. Two occurred in Gorseinion ; the original patient had been working from home and lodging in a house at Kidwelly, where several cases of Typhoid were being nursed. As soon as he returned to Gorseinion, both he and his younger brother, who had been infected by him on one of his previous visits home, were removed to hospital. One case occurred on a dairy farm and was removed to hospital ; no definite source of infection could be discovered. Two cases occurred at Pontardulais, the second being that of the scavenger who cleaned out the pail-closets of the first patient's house. Typhoid Fever is every year present in Pontardulais, the water supply being highly liable to pollution, and drainage being non-existent.”



In addition to the provision of pure water supplies, milk, and other articles of food, the importance of which the various District Councils are alive to, the remedial measures to be taken for the prevention of Typhoid Fever are —

- (1) The adoption of the water carriage system, where possible, for the disposal of excrement, &c.
- (2) The paving of back yards, with a view to prevent the contamination of the soil.
- (3) Public scavenging.
- (4) The thorough disinfection of the excreta, soiled linen, bedding, &c.
- (5) The more effectual control of the shell-fish trade.

#### PUERPERAL FEVER.

The number notified to have suffered from this disease was 68, and of these 35 proved fatal, as compared with 96 cases and 29 deaths in 1904. This is equivalent to a case-mortality of 51·47, and a death-rate of 0·05 per 1,000 population, or 1·45 per 1,000 births.

TABLE XIV.

PUEPERAL FEVER	1893.	1894.	1895.	1896.	1897.	1898	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Cases .. ..	92	76	68	81	63	100	87	79	123	122	88	96	68
Deaths .. ..	67	41	38	47	34	30	33	38	67	53	35	29	35
Case-mortality per cent.	7·27	58·9	55·8	58·0	46·5	33·3	37·9	48·1	54·4	43·4	39·7	30·20	51·47
Death-rate per 1,000 population	0·13	0·08	0·07	0·08	0·06	0·05	0·05	0·06	0·11	0·08	0·05	0·04	0·05
Deaths per 1,000 Births	3·34	2·25	1·87	2·31	1·67	1·45	1·66	1·80	3·04	2·27	1·50	1·21	1·45

Detailed remarks on this disease are given in my Annual Report for 1897, to which I would refer you.

#### DIARRHŒA.

Diarrhœa caused 536 deaths, which is equivalent to a death-rate of 0·80. This excessive mortality was probably accounted for, partly, by the warm and dry weather experienced during the third quarter of the year. In the previous year the number of deaths was 586, which is equivalent to a death-rate of 0·80.

The Diarrhœal rate for England and Wales was 0·59 ; for the 76 great towns, 0·83 ; for the 141 smaller towns, 0·57 ; and for England and Wales, less the 217 towns, 0·32.



In the following Table are given the Diarrhœal death-rates for the County and for England and Wales :—

TABLE XV.

DIARRHŒA.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Urban Districts .. ..	1·02	0·45	0·95	1·08	0·81	0·95	1·49	0·37	1·30	0·49	0·57	1·12	1·00
Rural .. ..	0·69	0·08	0·34	0·42	0·26	0·37	0·61	0·42	0·43	0·22	0·23	0·28	0·23
Administrative County	<b>1·31</b>	<b>0·35</b>	<b>0·78</b>	<b>0·87</b>	<b>0·66</b>	<b>0·77</b>	<b>1·25</b>	<b>0·38</b>	<b>1·04</b>	<b>0·42</b>	<b>0·48</b>	<b>0·80</b>	<b>0·80</b>
England and Wales ..	0·95	0·34	0·87	0·54	0·85	0·91	0·93	0·71	0·91	0·38	0·50	0·69	0·59

The highest death-rate was attained in Merthyr (1·82) ; Rhondda (1·38) ; Pontypridd (1·33) ; Maesteg (0·94) ; Neath Borough (0·86) ; Cowbridge Borough (0·83) ; and Ogmore and Garw (0·81).

No deaths occurred from this disease at Briton Ferry, Oystermouth, Penarth, Porthcawl, Llandilo-Talybont, Pontardawe West.

Diarrhœa is very variable as regards its prevalence, and is intimately associated with the temperature during the summer months, and the condition of articles of food and drink resulting therefrom. It is essentially an infantile affection, and apart from *climatic conditions*, *insanitary surroundings*, *overcrowding*, *injudicious feeding* (with indigestible, unwholesome and adulterated food) and *maternal neglect*, are the most important predisposing causes of this disease, which is so fatal amongst infants. More attention should be paid to the nursing, rearing, and feeding of infants, and especially to the provision of pure and unadulterated milk supplies.

The prevention of Diarrhœa consists of practically the same measures as the prevention of Enteric Fever, viz. :—The provision of suitable food, the disinfection of stools, and the prevention of the pollution of the soil by the provision of properly paved and cleansed back areas and courts.

#### ERYSIPELAS.

576 cases of Erysipelas were notified, and to it are ascribed 19 deaths, as compared with 494 cases and 21 deaths in 1904. This is equivalent to a death-rate of 0·02.

Erysipelas is generally associated with insanitary surroundings, and any premises in which it appears should be carefully examined.

The notification of this disease is important in connection with nurses, midwives, and others coming in contact with parturient women and surgical cases.

#### PHTHISIS.

The deaths attributed to Phthisis numbered 613—448 in Urban, and 165 in Rural Districts. This is equivalent to a death-rate of 0·91.

The highest rates are recorded from Oystermouth (1·90), Bridgend (1·83), Barry (1·56), Merthyr (1·29), Briton Ferry (1·28), Pontardawe East (1·25), Llandilo-Talybont (1·21), Cowbridge Rural (1·18), and Caerphilly (1·11).

In the following Table are given the number of cases and death-rates for the years 1893-1904 :—

TABLE XVI.

ADMINISTRATIVE COUNTY.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
Deaths .. ..	700	626	610	603	712	688	531	813	604	588	511	629	613
Death-rate .. ..	1·42	1·24	1·17	1·15	1·30	1·23	0·92	1·38	1·00	0·95	0·80	0·96	0·91

A special report on “The Prevention and Restriction of Tuberculosis” was presented in 1903, and appended is a copy of the Memorandum recently issued by the National Association for the Prevention of Consumption and other forms of Tuberculosis, which I consider of paramount importance.

The facilities offered by the Cardiff and County Public Health Laboratory for the examination of specimens of sputum should be more fully utilised, as the successful treatment of the disease depends upon its early diagnosis. 369 specimens of sputum from the whole county were examined at the Laboratory, as compared with 350 in 1904.

#### OTHER TUBERCULAR DISEASES.

Other Tubercular Diseases caused 211 deaths, which is equivalent to a death-rate of 0·31.

#### CANCER, MALIGNANT DISEASE.

340 deaths were attributed to Cancer and Malignant Disease. Only a few of the reports makes any special reference to these diseases.

The Medical Officer of Health for Merthyr writes :—“ 37 deaths from Cancer or Malignant Disease, were registered, as compared with 40 in 1904.

There were eight deaths each in Dowlais and Penydarren, nine in Town, seven in Plymouth, one in Merthyr Vale, and four in Cyfarthfa.

The organs affected were :—Alimentary Canal, 12 ; Liver and Pancreas, 6 ; Generative Organs, 9 ; Breast, 2 ; Skin, 4 ; not stated, 1.

The Medical Officer of Health for Gelligaer and Rhigos writes :—“ Cancer accounted for six deaths, compared with 11 in 1904. It is often asked—‘ Is Cancer increasing ? ’ My own view is that it is not, but it will be interesting to give the figures for the past few years :—1905, 6 ; 1904, 11 ; 1903, 13 ; 1902, 6 ; 1901, 6. So that there does not appear any foundation, so far as this District is concerned, for saying that Cancer is increasing. The rate is ·23 per 1,000, which is less than half the rate in Glamorgan in 1904.”

The Medical Officer of Health for Llangyfelach writes :—“ The death-rate from Cancerous Diseases is slightly above the average for the past eight years, viz., 0·62, compared with 0·52 per 1,000. Clase averaged 0·70 compared with 0·92, the rate for the last 10 years, whereas Llansamlet shows a still more favourable record, viz., 0·79, compared with 1·12, the average for the last 10 years.”

TABLE XVII.

## DEATH-RATES CLASSIFIED ACCORDING TO DISEASE AND LOCALITY.

DISTRICTS	Small Pox.	Measles.	Scarlet Fever.	Diphtheria and Croup.	Whooping Cough.	Enteric Fever.	Puerperal Fever.	Erysipelas.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Heart Diseases.	Injuries.
URBAN.													
Aberavon .. ..	0.12	..	0.12	..	..	..	..	..	0.38	0.76	2.54	2.66	0.24
Aberdare .. ..	1.04	0.58	0.29	0.27	0.08	0.08	0.02	0.62	0.43	3.72	..	1.16	..
Barry .. ..	..	0.13	0.26	0.23	0.09	0.06	0.03	0.26	1.56	2.43	1.19	0.06	..
Bridgend .. ..	0.28	..	..	0.42	2.25	..	0.14	0.14	1.83	1.69	0.84	..	..
Briton Ferry .. ..	..	0.57	0.28	0.85	..	..	..	..	1.28	2.14	1.57	0.14	..
Caerphilly .. ..	0.88	0.18	0.23	1.20	0.04	0.08	0.08	0.65	1.11	3.53	1.11	0.55	..
Cowbridge .. ..	..	..	..	..	..	..	..	0.83	0.00	2.4	3.32	..	..
Glyncorwg .. ..	3.33	0.13	0.26	0.66	0.4	..	..	0.8	0.4	3.4	0.66	0.4	..
Maesteg.. ..	0.56	0.09	0.04	0.18	0.18	..	..	0.94	0.56	4.21	1.04	0.04	..
Margam .. ..	0.47	..	..	0.95	..	0.09	..	0.19	0.57	2.38	0.57	0.38	..
Merthyr .. ..	1.76	0.28	0.29	0.16	0.18	0.08	0.01	1.82	1.29	5.59	1.48	0.55	..
Mountain Ash .. ..	0.93	0.02	0.21	0.29	0.04	0.02	..	0.64	0.89	2.56	0.51	0.91	..
Neath .. ..	0.06	..	..	0.2	0.06	0.06	0.06	0.86	1.06	1.73	1.26	0.73	..
Ogmore and Garw .. ..	1.31	..	0.18	0.27	0.04	0.27	..	0.81	0.59	4.09	0.04	..	..
Oystermouth .. ..	..	..	..	..	..	..	..	..	1.90	1.90	1.48	..	..
Penarth.. ..	0.68	..	0.06	0.06	0.27	..	0.06	..	0.96	2.48	1.58	0.41	..
Pontypridd .. ..	1.50	0.25	0.25	1.00	0.05	0.11	0.02	1.33	0.94	3.53	0.66	0.30	..
Portheawl .. ..	0.41	..	..	0.41	..	..	..	..	0.41	0.83	1.25	0.83	..
Rhondda .. ..	0.67	0.09	0.13	0.44	0.12	0.03	0.01	1.38	0.72	3.88	0.05	2.21	..
RURAL.													
Cowbridge .. ..	..	..	0.13	0.65	0.26	..	0.13	0.39	1.18	1.57	1.84	0.52	..
Gelligaer and Rhigos .. ..	1.90	0.03	1.19	0.19	0.19	0.03	..	0.31	1.03	3.45	1.15	0.03	..
Gower .. ..	0.13	..	0.13	..	0.13	0.13	..	0.41	0.68	2.75	1.78	0.82	..
Llandaff & Dinas Powis .. ..	0.19	..	0.27	0.35	0.03	..	0.03	0.27	0.82	2.88	1.30	0.43	..
Llantrisant and Llantwit Fardre .. ..	1.23	..	0.41	0.49	0.33	0.08	0.08	0.24	0.99	3.30	1.07	0.33	..
Neath .. ..	0.64	0.21	0.24	0.32	0.03	0.03	0.06	0.42	0.96	3.03	1.39	0.78	..
Penybont .. ..	0.88	0.00	0.50	0.31	0.00	0.00	0.06	0.06	0.50	4.09	1.83	0.31	..
Pontardawe :—													
East Division .. ..	0.19	0.19	..	0.19	..	..	..	0.28	1.25	3.67	1.25	0.86	..
West Division .. ..	0.67	0.50	0.50	..	0.25	..	..	..	0.84	2.18	1.17	0.67	..
Swansea Rural :—													
Llangyfelach Division .. ..	0.18	0.65	0.27	0.74	0.05	..	..	0.05	0.74	2.88	0.83	0.74	..
Llandilo Talybont .. ..	..	..	0.18	0.04	..	..	0.09	..	1.21	2.90	1.31	0.75	..



## ADMINISTRATION.

### PROVISION OF ISOLATION HOSPITALS BY LOCAL AUTHORITIES.

During 1902 the Local Government Board issued a circular to the various County Councils throughout the Country, drawing attention to the Isolation Hospitals Act, 1901 (1 Edw. VII., cap. 8), and pointing out the changes in the existing law that it introduced. These changes may be enumerated under :—

- (1) Transfer by Local Authorities of Hospitals for use as Isolation Hospitals.
- (2) Contribution by County Council to Hospitals provided by Local Authority.
- (3) Power of Hospital Committees under the Isolation Hospitals Act, 1893, to contract for Hospital accommodation.
- (4) Rate of interest on money repayable by County Council.
- (5) Appeals to Local Government Board as to formation of Hospital Districts.
- (6) Local Authorities in Rural Districts.

### ISOLATION HOSPITALS.

#### I. INFECTIOUS DISEASES HOSPITALS.

*When the County Council began (in 1895) to enforce the provisions of the "Isolation Hospitals Act, 1893," the Hospitals then existing were :—*

- (1) The Aberdare Hospital (temporary structure)—28 beds—still in use.
- (2) The Barry Small Pox Hospital (temporary structure)—now dismantled.
- (3) The Bridgend Small Pox Hospital (temporary structure)—8 beds—still in use.
- (4) Maesteg—a dwelling house—abandoned some years ago.
- (5) The Merthyr Hospitals (1) one in Brecon road, a permanent building, and (2) a temporary building at Pant, Dowlais.
- (6) The Mountain Ash Hospital, built in consequence of an epidemic of Enteric Fever in 1887.
- (7) Neath Borough Hospital, old dwelling houses altered for the purpose, but seldom used, situated in the centre of the town—condemned by the Medical Officer of Health.
- (8) Rhondda Hospital, a small permanent building with accommodation for 8 beds.
- (9) Gelligaer and Rhigos Hospital at Penybank, four old cottages altered for the purpose.
- (10) Neath Rural Hospital, a temporary building with accommodation for 12 beds.

Since the Isolation Hospitals Act has been enforced fourteen Hospitals have been built, two are in course of construction, and three others are in contemplation.

A very considerable progress has been made in the matter of Isolation Hospitals, and below is given a synopsis showing the *present* position of the question of Isolation Hospitals in the County.

(a) *The following Hospitals have all been completed and are in use, except Nos. 12, 13 and 14, and these are almost ready for the reception of patients :—*

- (1) The Barry Hospital—18 beds.
- (2) The Margam Hospital—24 beds.
- (3) The Briton Ferry Hospital (temporary)—12 beds.
- (4) The Maesteg Hospital—16 beds.
- (5) The Pontardawe Hospital—12 beds.
- (6) The Rhondda Hospital—32 beds ; and the old building—eight beds—40 beds in all.
- (7) The Glynecorwg Hospital (temporary)—eight beds.
- (8) The Llandaff and Dinas Powis (temporary)—12 beds.
- (9) The Swansea Rural (temporary)—24 beds.
- (10) The Penarth Hospital—16 beds.
- (11) The Pontypridd Hospital—20 beds.
- (12) The Llantrisant and Llantwit Fardre Hospital—18 beds.
- (13) The Bridgend Joint Hospital—18 beds.
- (14) The Ogmore and Garw Hospital—18 beds.

I regret to state that the Barry Hospital is still used for Small Pox cases *only*. Although the cases of Small Pox are few and far between, the whole establishment is made use of for their treatment, thus depriving patients suffering from other infectious diseases from being treated therein, and defeating the ends for which the Hospital was established. A new Small Pox Hospital is in course of construction, and will probably be completed before the end of the current year.

(b) *The following Hospital has been completed and is about to be opened :—*

The Llantrisant and Llantwit Fardre Hospital—18 beds.

(c) *The following Hospitals are practically completed, but not yet furnished :—*

- (1) The Bridgend Joint Hospital—18 beds.
- (2) The Ogmore and Garw Hospital—18 beds.

(d) *The sanction of the Local Government Board has been obtained to borrow the sums necessary for building the following :—*

- (1) The Merthyr Hospital—32 beds. Building operations are well in hand, and it is expected that the whole work will be completed before the end of the current year.
- (2) The Llandaff and Dinas Powis Hospital—24 beds. Building operations are well advanced.

(3) The Swansea Rural Hospital. A new administrative block in connection with this Hospital is in course of construction.

(4) The Caerphilly Hospital—20 beds. Building operations have been commenced, and a Clerk of Works appointed.

(e) *A site had been fixed upon some years ago for the following Hospital, and the amended plans were submitted to the Local Government Board :—*

The Gelligaer Hospital—18 beds.

(f) *Oystermouth.*—This District was some years ago constituted a Hospital District.

(g) *Gower.*—This Rural District having declined to join Oystermouth, or provide a Hospital for their own District, a compulsory Order was made against them by the County Council. The District Council appealed against the Order. This appeal was heard by one of the Local Government Board's Medical Inspectors on the 17th March, 1904. The Order was supported by the Board with the recommendation that Gower and Oystermouth be constituted a Joint Hospital District. Eventually the two District Councils concerned have come to an agreement to contribute, in equal shares, towards the proposed Hospital, and the Oystermouth Hospital Committee has applied to the County Council to vary their Order so as to bring Gower within the area, and thus create a Joint Hospital District. This arrangement has been acceded to. The Joint Hospital Committee are endeavouring to fix upon a suitable site, but have not yet succeeded.

(h) *The proposed Joint Hospital of Briton Ferry, Neath Rural, Neath Borough, and Aberavon Borough.*

The Local Government Board has decided not to include the Borough of Aberavon in the proposed Joint District.

A Joint Hospital for Neath Rural and Briton Ferry Urban District has been recommended, and the matter is under consideration.

(i) *Aberdare District Council.*—In several reports I made the suggestion that a new Isolation Hospital should be provided for *Aberdare*, but the subject has not been earnestly considered by the District Council.

## II. SMALL POX HOSPITALS.

(a) The following Small Pox Hospitals exist at present in the County, viz. :—

*Bridgend.*—A temporary building with accommodation for eight beds. There is a steam disinfecting apparatus. A Joint Hospital is about to be provided for the Districts which make up the Bridgend Union, excepting Maesteg, where a Hospital has been provided. When the Joint Hospital is ready the apparatus will be used there.

*Glyncorwg*.—A temporary structure with accommodation for eight beds. No apparatus provided.

*Maesteg*.—A temporary structure with accommodation for 12 beds. A disinfecting apparatus is about to be provided.

*Merthyr Tydfil*.—A temporary structure with accommodation for 18 beds.

*Neath Borough*.—Old dwellings altered for the purpose, but seldom used, situated in the centre of the town, with accommodation for eight beds. No disinfecting apparatus. Condemned by the Medical Officer of Health.

*Penarth*.—A temporary structure with accommodation for eight beds. No disinfecting apparatus.

*Pontypridd*.—A temporary structure with accommodation for eight beds, which has already been found inadequate. A disinfecting apparatus has lately been provided.

*Gelligaer and Rhigos*.—Four old cottages, altered for the purpose, with accommodation for eight beds.

*Llantrisant and Llantwit Fardre*.—A temporary structure with accommodation for eight beds. No disinfecting apparatus provided.

*Neath (Rural)*.—A temporary structure with accommodation for 12 beds. A disinfecting apparatus provided.

*Pontardawe*.—A temporary structure with accommodation for 12 beds.

*Caerphilly*.—A temporary structure with accommodation for eight beds. No disinfecting apparatus.

(b) *The following Hospitals are in course of construction :—*

- (1) The Bridgend Joint Hospital—12 beds.
- (2) The Barry Hospital—20 beds. It is expected this will be completed by November next.

The Districts of Aberdare, Mountain Ash, Llandaff and Dinas Powis, Rhondda, and Swansea Rural, are still without Small Pox Hospitals. Llandaff and Dinas Powis District is still without any accommodation whatever, and the long talked of arrangement with Penarth has not been completed. It should be remembered, however, that the Barry Hospital when completed will be available for certain portions of the district. The Rhondda District Council have acquired a site which has been approved. The Swansea Rural Council are putting up a temporary structure, with accommodation for 12 beds.

#### DISINFECTION.

I have dealt somewhat fully with the importance of the efficient disinfection of houses, articles of bedding, clothing, persons, &c., in previous Annual Reports, to which I would refer you.

The best disinfectant for all purposes, where practicable, appears to be heat in combination with moisture. Where sufficient heat cannot be applied, certain chemicals are used.



Now that notification of infectious disease is compulsory throughout the County, it is highly important that our provision for isolation and disinfection should be as efficient as possible, for they are complementary to each other.

*Infected persons and things* require to be disinfected, and disinfection should include :—

- (1) The disinfection of persons.
- (2) The disinfection of bedding, clothing, &c.
- (3) The disinfection of rooms, and
- (4) The disinfection of discharges.

No Isolation Hospitals are complete unless discharging rooms are provided in connection with them, where patients can be finally disinfected before leaving, and where midwives, nurses, and others who have been in attendance or in contact with fever cases can be cleansed and disinfected, while their infected clothing are being passed through a disinfectant.

It may be mentioned that the Reports of Medical Officers of Health, with a few exceptions, contain references to the real value of these requisites as a means of controlling the spread of disease. These are mentioned in the local summaries.

It is interesting to know the number of Steam Disinfecting Apparatus that have up to the present been provided in the Administrative County. These are as follows :—Aberdare 1, Barry 1, Bridgend 1, Maesteg 1, Margam 1, Merthyr 1, Mountain Ash 1, Ogmore and Garw 1, Penarth 1, Rhondda 1, Llandaff and Dinas Powis 1 (portable), Neath (Rural) 1, Pontardawe 1, Swansea (Rural) 1, Pontypridd 2, and Llantrisant 1, making 17 modern Disinfecting Machines in all. The County Council does not consider any Infectious Diseases Hospital complete unless there is provided an approved disinfecting apparatus, and half the cost of the Establishment charges is not paid unless this is the case. A few of the temporary Small Pox Hospitals have not yet been provided with disinfecting apparatus, but this is contemplated.

In 1893 there were only *two* disinfecting machines in the Administrative County, and these were Fraser's Sulphur Machines—one in Rhondda, and one in Neath Borough.

#### PRESERVATIVES AND COLOURING MATTERS IN FOOD.

The Report of the Departmental Committee appointed (in July, 1899,) to inquire into the use of preservative and colouring matters in the preservation and colouring of food, together with Minutes of Evidence, Appendices, and Index, was issued some years ago, when the following recommendations were made :—

- (a) That the use of formaldehyde or formalin, or preparations thereof, in foods, or drinks, be absolutely prohibited, and that salicylic acid be not used in a greater proportion than one grain per pint in liquid food and one grain per pound in solid food. Its presence in all cases to be declared.
- (b) That the use of any preservative or colouring matter whatever in milk offered for sale in the United Kingdom be constituted an offence under the Sale of Food and Drugs Acts.
- (c) That the only preservatives which it shall be lawful to use in cream be boracic acid or mixtures of boracic acid and borax, and in amount not exceeding 0·25 per cent., expressed as boracic acid. The amount of such preservative to be notified by a label upon the vessel.



- (d) That the only preservative permitted to be used in butter and margarine be borie acid or mixtures of borie acid and borax, to be used in proportions not exceeding 0·5 per cent., expressed as boric acid.
- (e) That in the case of all dietetic preparations intended for the use of invalids or infants, chemical preservatives of all kinds be prohibited.
- (f) That the use of copper salts in the so-called greening of preserved foods be prohibited.
- (g) That means be provided, either by the establishment of a separate Court of Reference or by the imposition of more direct obligation on the Local Government Board, to exercise supervision over the use of preservatives and colouring matters in food, and to prepare schedules of such as may be considered inimical to the public health.

Although it is true that the above recommendations have not become law, yet it is encouraging to find that they are practically the same as those adopted and enforced as far as possible by the Glamorgan County Council as far back as 1896.

It is greatly to be hoped that legislative effect will soon be given to these recommendations, so that the work of supervision under the Sale of Food and Drugs Acts may be made more effectual, and prosecutions less uncertain in their results.

The fact should not be lost sight of that the danger of preservatives lies not so much in the actual poisonous effects of the drugs used as in the fact that where preservatives are used it is probable that cleanliness is neglected.

With regard to recommendation (g) "that means be provided" to exercise supervision over the use of preservatives and colouring matter in food, and to prepare schedules of such as may be considered inimical to the public health, it is satisfactory to note that the matter has been taken up lately by the Local Government Board, and that a new department has been established for this purpose, under the direction and superintendence of Dr. G. S. Buchanan, one of the Medical Inspectors of the Board. Among the aims and objects of the enquiries made by this Board are the following :—

*INSPECTOR OF FOODS, &c., DEPARTMENT.*

The Department of the Inspector of Foods, &c., is a sub-department of the medical department. Its constitution was the outcome of recommendations which from time to time have been made by various Committees, including the Food Preservatives Committee, and by the Royal Commission on Arsenical Poisoning.

The duties of the Inspector are stated generally in the following extract from the reply given by the President (Mr. Gerald Balfour) to a question asked by Sir Cuthbert Quilter in the House of Commons on 8th August, 1905. :—

" . . . . .to advise the Local Government Board as to the administration of the Sale of Food and Drugs Acts and other similar Acts ; to deal with matters relating to the purity and adulteration of food which are brought to the Board's notice by public analysts, medical officers of health, and others ; to obtain information upon special questions relating to the purity and adulteration of food and the use of deleterious substances therein ; and to make suitable enquiries and investigations for this purpose. . . . . "

The following circular letter was recently received by me, and I have included it because of the great importance of the subject to which it refers :—

Local Government Board,  
Office of Inspector of Foods, &c.,  
50, Parliament Street, S.W.,  
*June 19th, 1906.*

Dear Sir,

I understand that in many administrative districts under the Sale of Food and Drugs Acts, samples of canned and preserved meats are being sent to the public analysts, in view of the recent events in the United States. I am anxious to utilize the opportunity to collect information as to use of preservatives and colouring matters in the foods in question. The presence of preservatives and colours in such foods as sausages, potted shrimps, &c., has of course often been ascertained, but the condition of certain other meat products, whether of home or foreign manufacture, in regard to preservatives is less clearly established ; and there seems to be special need for information as to presence or absence of preservatives in “canned,” tinned, or other foods which are hermetically sealed, in view of the indication that may be afforded that the meat was not fresh at the time of “canning.”

Accordingly I am inviting public analysts by letter to supply me with facts as to preservatives and colouring matters in any meat products which they have lately examined or may shortly be receiving.

In order that this information may be as complete as possible, I would be much obliged if you would kindly arrange to transmit to the analyst, in regard of samples lately collected, or shortly to be collected, full particulars as to each sample, namely :—

- (a) The description of the article purchased.
  - (b) The nature of the receptacle, if any, in which it was purchased (hermetically sealed can or tin, covered pot, &c.).
  - (c) The name of the manufacturer, brand of goods, or any other statements on the label.
- (I may state here that it is not intended to make public use of any name, &c., by which individual firms can be identified.)

I would like to make a further suggestion regarding samples which may shortly be collected, namely, that in the case of meat products in cans, tins, &c., it would often be best that the whole sample as purchased should be sent to the analyst. This proceeding would prevent prosecutions being instituted in the case of such samples ; but on the other hand, the principal point in many of these cases, alike for local and central authority, is knowledge of the facts, before questions of prosecution are considered. By not dividing the sample, the analyst has more material for examination, he can if he desires make bacteriological examination to see if the contents of the can, &c., are sterile, and he is better acquainted with the nature of the material he is testing.

If in ordinary circumstances arrangements regarding sampling under the Sale of Food and Drugs Acts do not come under your direction, I would be glad if you would kindly forward this request to the officer or officers of the Council with whom such arrangements rest.

I am,

Yours faithfully,

G. S. BUCHANAN.

The Medical Officer of Health

## REGULATIONS FOR THE SALE OF MILK.

The Board of Agriculture, in exercise of the powers conferred upon them by Section 4 of the Sale of Food and Drugs Act, 1899, have made the following Regulations, under date August 5th, 1901 :—

*Milk.*

- (1) Where a sample of milk (not being milk sold as skimmed, or separated, or condensed, milk) contains less than 3 per cent. of milk-fat, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-fat, or the addition thereto of water.
- (2) Where a sample of milk (not being milk sold as skimmed, or separated, or condensed, milk) contains less than 8·5 per cent. of milk-solids other than milk fat, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids other than milk-fat, or the addition thereto of water.

*Skimmed or Separated Milk.*

- (3) Where a sample of skimmed or separated milk (not being condensed milk) contains less than 9 per cent. of milk solids, it shall be presumed for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids other than milk-fat, or the addition thereto of water.

*Extent.*

- (4) These Regulations shall extend to Great Britain.

In the Regulations, the limits below which a presumption is raised that the milk is not genuine were necessarily fixed at figures lower than those which are usually afforded by genuine milk, in which the proportion of milk-fat and non-fatty solids very frequently exceeds the percentages specified above. It is therefore important that local authorities should keep steadily in view the possibility of the artificial reduction of the quality of natural milk to the official limits by the abstraction of cream, or the addition of separated milk, or of water, and arrangements should be made for the taking of samples and the submission of the same for analysis whenever the existence of malpractices of the kind is suspected. In this connection, it may be observed that the evidence given before the Milk Regulations Committee tended to show that the practice of fraudulently mixing separated milk with new milk has become increasingly prevalent, particularly in some of the larger towns.

Although the quality of genuine milk offered for sale will usually be well above the official limits of milk-fat and non-fatty solids, there may occasionally, and especially in certain seasons of the year, be cases in which a sample of genuine milk may fall below these limits. To meet cases of this kind it is suggested that in the absence of any special circumstances indicating that the case is a fraudulent one, the local authority might, in the first instance, call the vendor's attention to the analyst's report, and ask him whether he desires to offer any explanation, and if the explanation is one they are able to accept, they might, in the exercise of their discretion, refrain from the institution of proceedings, or withdraw



any summons which, in order to prevent the failure of proceedings by reason of the time limit imposed by the Act, it may have been necessary to take out. But it may be desirable that further samples of milk should be taken in such cases, in order that a satisfactory conclusion as to the character of the milk supplied may be arrived at.

#### *Cream.*

The Milk Regulations Committee reported that the evidence submitted to them went to show that it was a common practice to add gelatin to cream for the purpose of giving it a fictitious appearance of richness or thickness. Local authorities are urged to take steps to ascertain whether this form of adulteration is practised within their districts, and if a public analyst reports the presence of gelatin or other similar substance in a sample of cream, the local authority concerned should consider whether the case is one in which proceedings might not with advantage be instituted under Section 6 of the Sale of Food and Drugs Act 1875.

#### *COLLECTION AND RETENTION OF SAMPLES.*

It is desirable that, so far as may be found practicable, there should be uniformity of procedure in collecting and retaining samples of milk procured under the provisions of the Sale of Food and Drugs Acts, and the following recommendations have been drawn up for the guidance of the local officials employed in this work.

- (1) The quantity to be purchased should not be less than one pint, except that it may be expedient to purchase only half-a-pint, in cases where there is reason to believe that the object of the purchase would be defeated if a greater quantity were demanded.
- (2) That the division of the sample, under Section 14 of the Act of 1875, as amended by Section 13 of the Act of 1899, should be made as equally as possible, so that the portion reserved by the purchaser may not be less than one-third of the whole.
- (3) The bottle used for each divided part should have a narrow neck, and be of such capacity that the milk may nearly or quite fill it. The shape of bottle known as "Winchester" is strongly recommended, but, in any case, the bottles should have rounded sides in order to give security to the sample during transit by post or otherwise.
- (4) Corks only should be used, and these should always be new and sound, and fitting so tightly as to secure the contents without any aid from the wax which is subsequently used for sealing the sample. It is most desirable that the sealing should be carried out in such a way as to prevent any attempt to remove the cork. It is therefore recommended that the cork should be slit down to one-fourth of its length, and the string drawn through and securely fastened round the neck, the ends being afterwards carried to the top of the cork and sealed thereon.
- (5) Special attention should be given that the reserved portion of milk be kept in as equable and cool a temperature as possible, pending its production in Court in instances where proceedings are taken, and, if directed by the justices to be referred to the Government Laboratory, it should be carefully packed so as to secure its safe transmission.

These regulations are very important, as they fix definitely the standards of milk-fat and milk-solids in milk and skimmed and separated milk at which such articles may be regarded as genuine, and such standards have long been wanted as a base for successful prosecution in the adulteration of milk.



It would be very useful if the Board of Agriculture considered it wise to issue similar regulations for determining what addition of extraneous matter or proportion of Water shall, for the purpose of the Food and Drugs Act, raise the presumption that butter is not genuine.

### TESTS FOR FARMERS' MILK.

The Board of Agriculture and Fisheries have lately issued an important leaflet, a copy of which is given below. The matter is under the consideration of the County Council, and it would be encouraging to the farmers if effect were given to these recommendations.

"It is a well-known fact that in the vast majority of cases the milk given by the cows of this country exceeds in butter-fat and other milk solids the percentage specified in the 'Sale of Milk Regulations, 1901,' made by the Board of Agriculture. It happens, however, occasionally, that for one reason or another a cow may give milk which does not contain those percentages (3 per cent. of butterfat and 8·5 per cent. of other milk solids); and in such cases the dairyman, when prosecuted, is required to prove that the milk is genuine. In order to avoid the trouble and annoyance of a prosecution, farmers, dairymen, and all other cowkeepers are strongly recommended to have samples of milk from their cows tested from time to time. By this means they will be able to watch the seasonal and other variations in the fat contents of the milk and by modifications in the feeding, housing, or time of milking of their cows, and, if necessary, by disposing of animals that give milk of low quality, to keep the quality of their milk at a satisfactory level.

The Board have ascertained that, with the object of assisting farmers in the direction indicated, most of the Agricultural Colleges and Agricultural Departments of the Universities have made arrangements for determining the percentage of butter-fat for a fee of sixpence per sample.

It must, however, be understood that—

- a. The report sent will refer only to the percentage of butter-fat.
- b. Each report refers only to the sample tested, and implies no guarantee whatever as to the bulk.
- c. Each report is supplied solely for the information of the milk producer, and must not be used as evidence in case of any dispute between seller and buyer, or where the quality has been questioned by any public authority.

The directions issued by the institutions must be carefully observed. They require, as a rule, that :—

(1) The fee of sixpence should be sent with the sample. In the case of Essex, however, the fee charged by the county is one shilling; while no charge is made by the West of Scotland Agricultural College to farmers residing in the counties contributing to the support of that body.

(2) A stamped and addressed envelope should be sent for the report.

(3) Samples should not be sent so as to arrive between Friday night and Monday morning.

(4) If it is proposed to send samples periodically, as may be in many cases advisable, the institution should be so informed.

(5) The sample bottles should be carefully sealed and packed in accordance with the requirements of the General Post Office, and the postage prepaid."

## SALE OF FOOD AND DRUGS ACTS.

For the purposes of these Acts the County is divided into five Districts :—Barry, Bridgend, Merthyr, Neath, and Pontypridd and the duties are performed by the Superintendents of Police, acting as Inspectors under the Acts. The number of samples taken during the year was 982. Of these, 253 were taken in the first, 233 in the second, 247 in the third, and 249 in the fourth quarter, or—

224 from Barry District

174 „ Bridgend „

182 „ Merthyr „

201 „ Neath „

201 „ Pontypridd „

A list of the samples taken and analysed is given below :—

TABLE XVIII.

Milk .. .. 539	Corn Beef .. .. 1	Ice Cream .. .. 1
Bread .. .. 1	Ground Ginger .. .. 13	Flask Oil .. .. 1
Butter .. .. 133	Ginger .. .. 1	Oil of Almonds .. 2
Margarine .. .. 3	Vinegar .. .. 14	Friar's Balsam .. 3
Lardine .. .. 1	Malt Vinegar .. .. 1	Grape Nuts .. .. 1
Lard .. .. 60	Crystallized Sugar .. 1	Cocoa Quinine Wine .. 1
Honey .. .. 6	Brown Sugar .. .. 5	Fruit Sauce .. .. 1
Golden Syrup .. .. 4	Demerara Sugar .. .. 1	Packet Magnesia .. 1
Cheese .. .. 3	Tea .. .. 2	Cream of Tartar .. 3
Gauda Cheese .. .. 1	Camphorated Oil .. .. 1	Black Currant Jam .. 3
Oat Cakes .. .. 1	Coffee .. .. 11	Tincture of Orange .. 1
Sago .. .. 2	Extract of Coffee .. .. 1	Tincture Rhubarb .. 1
Arrowroot .. .. 4	Chocolate .. .. 1	Tincture Hyoscyamus .. 3
Cornflour .. .. 1	Cocoa .. .. 6	Lime Juice .. .. 1
Tapioca .. .. 1	Currant Cake .. .. 1	Yeast .. .. 3
Rolled White Oats .. 1	Cherry Cake .. .. 1	Black Currant Cordial .. 1
Ground Rice .. .. 1	Whisky .. .. 40	Pine Apple .. .. 1
Self-raising Flour .. 4	Brandy .. .. 9	Strawberry Jam .. 1
Pepper .. .. 42	Rum .. .. 14	Raspberry Wine .. 1
Pickled Walnuts .. .. 1	Gin .. .. 8	Baking Powder .. 4
Sausages .. .. 4	Beer .. .. 3	

The results of the analyses are given in the County Analyst's Quarterly Reports, but it would be instructive to note how the important articles of food, such as milk, butter, &c., stood as far as the addition of preservatives were concerned, such as formaldehyde or formalin, salicylic acid, boric acid, or mixtures thereof, and copper salts.

TABLE XIX.

## MILK.

Genuine, and fully equal to the Standard.	Slightly under Standard.	Deficient in Butter Fat.	Added Water.	Preservatives.
131	4	8	..	One 7 grains per gallon, and another 12½ grains per gallon of boric acid. All free from formalin.
114	9	14	1	All free from boric acid and formalin.
121	14	5	1	Free from boric acid and formalin.
104	4	1	1	Four contained boric acid, one to the extent of 35 grains per gallon, and three to the extent of 14 grains per gallon.

## BUTTER.

Genuine.	Foreign Fats.	Preservatives.	Water in large excess.	
31	All Free.	8 free from boric acid, and 23 contained small amounts.	Free	
31	All Free	13 free from boric acid and 18 contained small quantities.		
35	All Free.	22 free from boric acid and 13 contained small quantities.		
36	All Free.	20 free from boric acid, 16 less than 5 per cent.		

All the samples of beer examined were free from arsenic and other deleterious ingredients.

## FERTILIZERS AND FEEDING STUFFS ACT, 1893.

Under this Act 82 samples were received as under :—Basic Slag, 7 ; Feeding Meal, 5 ; Indian Meal, 5 ; Barley Meal, 48 ; Bone Manure, 1 ; Special Mangold Manure, 1 ; Superphosphate, 8 ; Alkaline Superphosphate, 1 ; Bibby's Meal, 1 ; Pea Meal, 1 ; Maize Meal, 1 ; Nitrate of Soda, 1.



## WATER SUPPLY.

As far back as my Annual Report for 1903 (my second Annual Report to the County Council), I reported thus :—

“The Water Supply, especially of the mineral area of the County, is a matter of the greatest importance. During the drought of last summer there was a great scarcity in many localities—a condition bordering almost on a water famine. At present a great alarm is felt that there may, should we have a repetition of last summer, be an absolute water famine in the near future if some means are not taken to provide an adequate supply.

In 1881 and 1891 the population of the Administrative County numbered 352,242 and 467,875 respectively, and at mid-year 1893 it has been estimated at 521,872. These figures show how the population has increased during the last decade, and how it is still increasing, what it may become in the future, and how absolutely necessary it is to be in readiness to supply it with sufficient water. In June, 1893, deputations from the Local Boards of Ystradyfodwg (now Rhondda) and Pontypridd waited upon the Water Committee of the County Council and represented that then a serious deficiency of water existed in their districts, and that the prospects for the near future were alarming. The Committee recommended that a deputation, consisting of members of the Water Committee and of the Local Authorities, be sent to the Local Government Board, urging them to introduce into Parliament a measure repealing the Clause prohibiting Local Authorities from competing in Water Supply with private Water Companies within their districts, and also to authorise the County Council to promote a Bill for providing a Water Supply for the County. Such powers, however, were not granted them. It will soon become necessary that the supply of water to the mineral districts must be obtained by a large and general scheme from the mountain ranges lying to the north of the coalfields. Merthyr and Cardiff already obtain their supplies from this area, and until such another scheme is provided for the remaining mineral districts their present and anticipated future populations cannot be said to be adequately supplied with a constant and sufficient quantity of pure and wholesome water, which is a first necessity of life.”

The same matter is referred to in every Annual Report which I have since presented (1893—1904), and also in many of my quarterly Reports, but inasmuch as it is only comparatively quite recently (1903) that County Councils have been placed in the position to promote Bills in Parliament, the Glamorgan County Council has been practically powerless to move in the matter. The first and most pressing sanitary requirement of the County is a better water supply, and the time has arrived when a large and comprehensive scheme, contemplating the taking of water from the mountain ranges north of the coal-measures should be carried out.

In the present session of Parliament the County Council promoted “A Bill To empower the Glamorgan County Council to make inquiries and surveys with a view to the utilisation of Water Supplies in South Wales and to form Water Districts and for other purposes.” This Bill (as amended in Committee) has now become “An Act To empower the Glamorgan County Council to make inquiries and surveys with a view to the Utilisation of Water Supplies in South Wales ; and for other purposes.”

It is to be hoped that the County Council having taken this important and hitherto unprecedented step, and fully realising as it does the great importance of providing the teeming population of its industrial and other centres with an adequate supply of pure and wholesome water, will utilize to the utmost the powers that Parliament has been pleased to confer upon it.

For a detailed account of the Water Supplies of the County I would refer you to my special report on “The Water Supplies of Glamorgan,” published December, 1902. Since this date, however, several



new works, extensions, &c., have been completed or undertaken, and the following improvements are reported to have been effected during the year under review. :—

<i>District.</i>	<i>Improvements effected or undertaken.</i>
ABERAVON .. ..	Extension of mains.
ABERDARE .. ..	Extension of main to supply the new houses recently erected.
BARRY .. ..	Extension of mains.
BRIDGEND .. ..	The construction of reservoir and filter beds on Ogmore Down completed.
BRITON FERRY .. ..	Extension—140 yards of 3 inch and, 100 yards of 4 inch pipes.
COWBRIDGE BOROUGH ..	Improvement in the quality of the water, since repairs to Silver and East Village Wells were carried out.
GLYNCORWG .. ..	All the houses at Cymmer and Glyncoerwg have been provided with a separate supply, taps having been fixed inside them.
MAESTEG .. ..	“ Nothing further has been done to the proposed Storage Reservoir at Blaenewmcerwyn since July, 1905, beyond the continual pumping of the water from the puddle-trench and the keeping of the trench timber in repair. The puddle-trench has been excavated in some places to a depth of 80 feet, the rock at that depth being of a broken nature. The Council contemplate making a further application to the Local Government Board for sanction to take up a further loan to complete the works.”
MARGAM .. ..	Repairs to Reservoirs at Cwmgywyne and Lletty-Piod, and extension of water mains to Forge Field, Port Talbot. New 6 inch water main to Aberavon, and Water Mains and Supply to Ranallt.
MERTHYR TYDFIL .. ..	Supply satisfactory and adequate. The following works are in course of construction :— (1) Additional filter beds at Pengarnddu. (2) A high level aqueduct from Neuadd. (3) A new main to the lower end of the Parish.
MOUNTAIN ASH .. .	The water supply of the district was abundant, and the new storage reservoir of 33,000,000 gallons capacity was completed.
NEATH .. ..	No improvements or extensions undertaken.
OGMORE AND GARW .. ..	Supply at Bettws and Gilfach-Goch inadequate. No improvements carried out, and no storage reservoir provided.
OYSTERMOUTH .. .	Supply intermittent and unsatisfactory in quality, as usual.
PENARTH .. ..	Supply abundant from Cardiff mains.

PONTYPRIDD	..	..	..	The supply was fairly ample, but very intermittent in some localities. The Graig District suffering most from a scarcity. In ordinary summer seasons, apart from the occurrence of any drought, there is generally a shortage in the supply of this district, which is then very intermittent also. An additional main was laid down in Porth and Pontypridd.
PORTHCAWL	..	..	..	Inadequate. A new water supply from Nanteraiygraber is being provided
RHONDDA	..	..	..	Supply inadequate. Additional works about to be carried out.
COWBRIDGE RURAL	..	..	..	Supply short and inadequate in several localities. A new water scheme for Llantwit-Major completed.
GELLIGAER AND RHIGOS	..	..	..	A new storage reservoir at Blaenrhymney completed. A new main is being laid through the district.
GOWER	..	..	..	Repairs to several wells, and new pumps are provided.
LLANDAFF AND DINAS POWIS	..	..	..	Many repairs carried out. Extension of main to the Church and adjacent houses at Lisvane.
LLANTRISANT AND LLANTWIT-FARDRE.	..	..	..	The construction of the new Llanilid storage reservoir well in hand. Several extensions of mains—viz., Beddau, &c.
NEATH RURAL	..	..	..	The Ystradfellte waterworks have been commenced.
PENYBONT	..	..	..	Wells repaired at Sker, Wainymere and Maudlam. Extensions to Park Road, Aberkenfig and Penyfai. Schemes under consideration for Llangynwyd, Troedrhiwgarth, and Pont-rhydyceff, Tir-isha, Wick, and St. Brides Major.
PONTARDAWE EAST AND WEST	..	..	..	Several Extensions carried out.
LLANGYFELACH DIVISION	..	..	..	Scheme for Cwmrhydyceirw and vicinity completed.
LLANDILO-TALYBONT DIVISION	..	..	..	Unsatisfactory and inadequate. A large scheme in hand to supply Pontardulais, Gorseinon, &c., and a Local Government Board inquiry recently held.

The subjoined list furnishes the names of places and localities where the supplies are inadequate :—

<i>District.</i>	<i>Districts or portions of Districts inadequately supplied.</i>
ABERAVON	Council's own supply inadequate. The additional supply required is provided from Margam mains.
BRITON FERRY	Inadequate in dry weather.
COWBRIDGE BOROUGH	Inadequate in the whole District.
MAESTEG	Inadequate in dry seasons.

NEATH BOROUGH	..	..	Short occasionally.
OGMORE AND GARW	..	..	Very scarce at Bettws and Gilfach-Goch.
OYSTERMOUTH	..	..	Intermittent, inadequate, and unsatisfactory on analysis.
PONTYPRIDD	..	..	Short in dry seasons, all available sources utilised, population increasing.
PORTHCAWL	..	..	Whole District.
RHONDDA	..	..	Inadequate. A large scheme in hand.
COWBRIDGE RURAL	..	..	Several villages, including St. Hilary, and Llanblethian.
GELLIGAER AND RHIGOS	..	..	Inadequate until new main is completed.
GOWER	..	..	Llanrhidian Higher, Knelston, Horton, Scurlage Castle, &c.
LLANDAFF AND DINAS POWIS			Pentyreh, Penygarn, and several other places.
LLANTRISANT AND LLANTWIT- FARDRE			Inadequate in several localities. Large scheme in hand.
NEATH RURAL	..	..	Tonna, Cimla, Glyn-Neath, Resolven, Cilfrew, Crynant, Seven Sisters, Cadoxton, Pontrydyfen, and Cwmavon. Large scheme in hand.
PENYBONT	..	..	Pencocd, Penprisk, Pontrydyeyff, and St. Brides Major.
SWANSEA RURAL	..	..	The whole of Llandilo-Talybont Division.

### THE EXAMINATION OF WATER SUPPLIES.

As in former years samples from the main sources of supply of the County have been systematically examined at the County Laboratory both chemically and bacteriologically every quarter. A large number of samples also from suspected wells, &c., and proposed new sources, have been investigated.

174 samples were examined chemically ; of these, 110 were satisfactory ; 59 were suspicious ; and 5 unfit.

135 samples were examined bacteriologically ; of these 50 were satisfactory ; 60 suspicious ; and 25 unfit.

In every instance the results of the analysis were sent to the District Councils concerned.

Although such an undertaking entails an enormous amount of work, yet it is of the greatest importance that the County Council should be in possession of the valuable data thus obtained.

None of the District Councils possess a Laboratory, and their Medical Officers of Health do not undertake analytical work of this description.

### SEWERAGE AND SEWAGE DISPOSAL WORKS.

Additional important sewerage and sewage disposal works have been completed or undertaken in many Districts during the year, and it is very gratifying to put on record the completion of some very

comprehensive schemes, and of others in contemplation. This is one of the most important features associated with the progress of sanitation in the County during recent years.

<i>Districts.</i>	<i>Improvements effected or undertaken.</i>		
ABERAVON .. ..	The sewerage of Pantdu, Corlanna and Baglan Road, completed.		
ABERDARE .. ..	Several extensions.		
BARRY .. ..	Extensions of sewers and drains—1,557 yards.		
BRIDGEND .. ..	The sewerage scheme for the whole District is completed. Several extensions have been made.		
BRITON FERRY .. ..	New sewers have been laid in Regent Street West, Victoria Road, and Ynysynaerdy, and the main storm culverts and open storm brook have been cleared out for a considerable distance.		
CAERPHILLY .. ..	The whole District, except Nelson, is now sewered.		
GLYNCORWG .. ..	A joint conference of the Glyncoiwg, Neath Rural, and Margam District Councils has been held with reference to the proposed scheme of carrying the sewage to the sea. The scheme is still under consideration.		
MAESTEG .. ..	The scheme of sewerage and sewage disposal works completed.		
MARGAM .. ..	Sewer extension at Toneirych.		
MOUNTAIN ASH .. ..	New subsidiary sewers for Abercynon.		
OGMORE AND GARW .. ..	Garw scheme completed, and connections in hand.		
PENARTH.. ..	Sewerage extensions and new sewage disposal works under consideration.		
PONTYPRIDD .. ..	Extension of sewers in various places.		
PORTHCAWL .. ..	Sewerage extension scheme at Newton.		
RHONDDA .. ..	The drains of some 53 houses connected to the public sewers. 50 houses (Bush) provided with pail closets instead of ash-middens.		
COWBRIDGE RURAL .. ..	Improvement of sewer outfalls at Brynna and Dolau.		
GELLIGAER AND RHIGOS .. ..	Extensions at Pontlloftyn, Newtown and Troedrhwiwuch.		
LLANDAFF AND DINAS POWIS	St. Andrews sewerage works completed ; several small extensions.		
LLANTRISANT AND LLANTWIT-FARDRE	The sewerage of Church Village completed ; several extensions.		
NEATH RURAL .. ..	Several important schemes under consideration.		
PENYBONT .. ..	Subsidiary sewers for Brynmenyn, Tondy, and St. Brides Minor.		
PONTARDAWE WEST .. ..	Sewerage of Cwmgorse and part of Gwacnaegurwen undertaken. Plans prepared for sewerage of Ystalyfera.		



LLANDILO-TALYBONT DIVISION Plans, &c., for sewerage schemes of Gorseinon and Pontardulais completed.

Systems of sewerage are urgently needed in many places :—

<i>Districts.</i>	<i>Requirements.</i>
ABERAVON .. ..	Sewerage of Velindre.
CAERPHILLY .. ..	Extension of Rhymney Valley main trunk sewer as far as Ystrad Mynach.
COWBRIDGE BOROUGH .. ..	Whole District. River receives all slop sewage.
GLYNCORWG .. ..	A joint conference held with reference to proposed main trunk sewer. The scheme is still under consideration by various Councils interested.
OGMORE AND GARW .. ..	Main trunk sewers for Ogmore Valley and Gilfach-Goch.
OYSTERMOUTH .. ..	The sewerage of Newton and Langland.
PENARTH.. ..	Sewage disposal works.
PONTYPRIDD .. ..	Several extensions.
RHONDDA .. ..	Extension for Appletree houses, Dinas, and Bush houses, Clydach Vale.
COWBRIDGE (RURAL) .. ..	The sewerage of several localities.
GELLIGAER AND RHIGOS .. ..	The sewerage of Hengoed, Gelligaer Village and Ystradmynach.
LLANTRISANT AND LLANTWIT- FARDRE	Sewage Disposal Works for Ely Valley, Pentonteg, Efail Isaf, &c.
NEATH .. ..	The sewerage of Cwnavon, Glyn Neath, Resolven, Cadoxton, Seven Sisters, and other villages.
PENYBONT .. ..	The sewerage of Pencoed, Kenfig Hill, Coychurch, Southerndown, Coity, St. Brides Major, and Wick.
PONTARDAWE .. ..	The sewerage of Ystalyfera, Clydach, &c.
SWANSEA (RURAL) .. ..	The greater portion of the whole District is unsewered, including Gorseinon, Pontardulais, Waunarlwydd, Forest Fach, Cockett, Sketty, and many other populous centres.

#### CHEMICAL ANALYSES OF SEWAGES AND SEWAGE EFFLUENTS CARRIED OUT IN 1905.

##### GENERAL REMARKS :—

*Organic Ammonia.*—A common standard for a good effluent is that it should contain less than 0·1 parts per 100,000 of organic ammonia.

Where the corresponding crude sewage is of a strong character, a higher limit may be allowable.

*Putrescibility.*—The results given under this column are measured as the increase in the oxygen absorbed by readily oxidisable organic matter after seven days' incubation, compared with that on the original sample. A good effluent should show no increase after incubation.

*Nitrates.*—In general, the higher the relative proportion of nitrates the more satisfactory is the effluent, since nitrates are the final products of the oxidation of nitrogenous organic matter.

*Chlorine.*—With no dilution of the effluent by rain or other water, the chlorine figures in the effluent and the corresponding crude sewage will be approximately the same.

# Chemical Examinations of Sewages and Sewage Effluents.

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THE FIGURES REFER TO PARTS PER 100,000.

TABLE XX.

SAMPLE.	Date Collected 1905.	Suspended Matter.	Free Ammonia.	Albuminoid Ammonia.	Oxygen absorbed in 4 hours.	Putrescibility.	Nitrogen as Nitrates.	Chlorine.	Reaction.	PERCENTAGE QUALIFICATION CALCULATED ON	
										(a)	(b)
										Oxygen absorbed per cent.	Albuminoid Ammonia per cent.
THORNTON.	Crude Sewage	35.1	2.63	1.31	7.92	2.15	t.o.	8.5	Faintly alkaline	96.5	96.5
	Effluent	t.o.		.05	.28	Nil	t.o.	4.3	"	98.2	99.2
	Crude Sewage	275.4	3.28	3.24	11.52	1.70	t.o.	21.6	"	97.5	98.2
	Effluent	t.o.		.03	21	4.40	Nil	14.9	"	98.5	98.3
	Crude Sewage	168.5	9.02	6.02	35.5	6.50	Nil	27.0	Alkaline	92.4	90.4
PAIKENSWYDD.	Crude Sewage	319.4	5.08	4.66	31.6	1.02	t.o.	2.5	Alkaline	94.8	95.1
	Effluent	t.o.		.08	.48	Nil	t.o.	4.1	"	94.3	94.6
	Crude Sewage	20.8	.66	.29	1.72	1.08	t.o.	5.4	Faintly alkaline	97.6	96.5
	Effluent	t.o.		.01	.09	Nil	t.o.	3.2	"	92.4	90.4
	Crude Sewage	16.2	1.01	.19	2.08	.94	t.o.	4.3	Neutral	96.6	98.2
MOUNTAIN ASH.	Crude Sewage	21.7	2.33	.82	2.88	.33	t.o.	2.8	Alkaline	94.9	96.6
	Effluent	s.a.		.01	.10	Nil	t.o.	5.9	"	96.4	98.8
	Crude Sewage	18.1	1.71	.21	2.14	.99	t.o.	3.2	Neutral	28.8	23.8
	Effluent	t.o.		.007	.11	Nil	t.o.	4.5	"	83.7	81.2
	Crude Sewage	22.1	1.59	.60	3.82	1.03	t.o.	3.5	Alkaline	59.5	70.2
YNSYHVL.	Crude Sewage	12.6	1.28	.42	1.25	.58	t.o.	4.6	Faintly alkaline	81.2	80.7
	Effluent	6.1		.02	.89	.62	t.o.	3.3	"	82.8	77.5
	Crude Sewage	462.0	3.04	2.08	12.7	.75	t.o.	4.5	Faintly alkaline	81.2	80.7
	Effluent	18.2		.39	2.06	.06	t.o.	6.8	"	59.5	70.2
	Crude Sewage	39.2	2.95	2.11	9.52	2.25	Nil	4.9	Alkaline	81.2	80.7
YNSYHVL, NEW ROAD.	Crude Sewage	35.1	2.08	.93	6.82	1.25	t.o.	4.6	Faintly alkaline	82.8	77.5
	Effluent	6.1		.18	1.28	.60	t.o.	3.3	"	81.2	80.7
	Crude Sewage	16.8	.91	.62	2.56	.44	t.o.	2.3	Alkaline	20.1	7.7
	Effluent	3.1		.34	.44	.18	t.o.	4.1	Neutral	28.0	56.0
	Crude Sewage	32.8	1.42	.39	3.74	.95	t.o.	5.7	Faintly alkaline	28.0	56.0

t.o.—Traces only.

s.a.—Small amount.

TABLE XX.—CONTINUED.

SAMPLE.	Date Collected 1905.	Suspended Matter.	Free Ammonia.	Albuminoid Ammonia.	Oxygen absorbed in 4 hours.	Putrescibility.	Nitrogen as Nitrates.	Chlorine.	Reaction.	PERCENTAGE PURIFICATION CALCULATED ON	
										(a) Oxygen absorbed, per cent.	(b) Albuminoid Ammonia, per cent.
BRIDGEMAN. Crude Sewage Effluent Crude Sewage Effluent Crude Sewage Effluent	March 9th	9.5	1.31	.49	2.49	1.27	t.o.	2.6	Faintly alkaline	88.0	89.0
	July 19th	204.6	8.80	6.68	4.36	5.20	t.o.	31.6	"	93.0	92.0
	October 5th	161.8	6.02	3.24	17.0	3.35	Nil	12.4	"	98.0	98.6
	"	t.o.	.01	.04	.34	Nil	1.20	10.8	"		
TROEDYHIV. Crude Sewage Effluent Crude Sewage Effluent Crude Sewage Effluent	March 16th	20.2	1.33	.42	2.78	1.54	Nil	3.9	Faintly alkaline	94.2	92.0
	July 19th	39.4	4.90	1.98	8.40	1.60	t.o.	9.8	"	97.1	98.5
	September 15th	20.6	3.93	.57	1.46	.50	Nil	6.1	"	90.4	97.7
	"	s.a.	.01	.01	.14	Nil	2.10	3.1	"		
CWMAYON. Crude Sewage Effluent Crude Sewage Effluent Crude Sewage Effluent	January 27th	13.2	4.30	.96	7.92	1.72	Nil	11.3	Faintly alkaline	23.0	16.7
	May 17th	22.2	4.02	1.26	11.2	1.60	Nil	17.6	"	54.9	48.4
	August 19th	10.2	4.42	2.72	5.23	.93	Nil	2.8	"	—	—
	November 9th	22.6	2.50	.65	3.56	.95	Nil	5.4	Faintly alkaline	34.8	27.7
PONTYCLUN. Crude Sewage Effluent Crude Sewage Effluent Crude Sewage Effluent	February 8th	75.5	2.51	.70	6.54	.28	t.o.	5.2	Faintly alkaline	50.2	40.0
	March 24th	37.3	2.36	.62	3.79	1.24	Nil	4.4	"	85.8	82.3
	August 11th	64.6	2.05	1.04	7.44	.45	t.o.	5.5	"	87.7	85.6
	November 23rd	19.6	1.83	.41	2.04	.19	t.o.	5.0	"	55.6	61.0
GWAPLODYGARTH. Crude Sewage Effluent Crude Sewage Effluent Crude Sewage Effluent	May 9th	47.2	2.96	.74	5.92	.52	Nil	6.5	Neutral	51.0	52.7
	August 31st	41.1	3.57	.64	5.25	.96	Nil	10.3	Alkaline	48.0	9.2
	"	6.8	1.46	.59	2.73	.25	Nil	7.1	"	—	—
	August 16th	8.2	1.08	.37	1.86	1.12	t.o.	11.6	"	—	—
NEW TREDEGAR. Effluent "	"	24.2	2.07	1.08	5.54	5.24	t.o.	10.7	Alkaline	—	—
	"	"	"	"	"	"	"	"	"	"	"
GILFACH. Crude Sewage Effluent "	August 21th	170.0	13.7	6.1	19.3	2.65	s.a.	19.5	Neutral Acid	—	—
	"	37.6	2.14	.89	1.72	.34	.80	.8	"	—	—

t.o.—Traces only.

s.a.—Small amount.



## REMARKS ON ANALYSES.

## TIRPHIL.

Crude sewages were of a strong character, especially the two later samples.

In all cases the effluents were of excellent quality, and showed a high degree of purification.

## PARKNEWYDD.

Samples of crude sewage were of a fairly weak character.

As in previous years all the effluents proved to be highly satisfactory, being clear, non-putrescible, and showing efficient oxidation.

## MOUNTAIN ASH.

Samples of crude sewage were all of less than average strength.

All the samples of effluent, excepting the September sample showed efficient purification. The September sample was very unsatisfactory, showing practically no purification.

## YNYSYBWL.

Samples of crude sewage were usually of moderate strength.

The two earlier samples of effluent proved to be unsatisfactory, with suspended matters in considerable amount. The two later samples showed fairly efficient purification.

## YNYSYBWL—NEW ROAD TANKS.

With a crude sewage of less than average strength, both of the effluents collected were unsatisfactory, being distinctly putrescible and showing little purification.

## BRITHDIR.

Samples of crude sewage were usually of a very strong character.

Throughout the year the percentage purification was high and the analytical results again indicate efficient working of the filter beds.

## TROEDYRHIW.

Samples of crude sewage were of moderate strength.

The later effluents were the most satisfactory, but all the samples show fairly efficient purification.

## CWMAYON.

Samples of crude sewage were generally of a fairly strong character.

These filter beds again gave most unsatisfactory results throughout the year.

All the effluents were strongly putrescible and showed no final oxidation.

## PONTYCLUN.

Samples of sewage were of moderate strength.

The analytical results for these filter-beds show less efficient working than in previous years.

Effluents collected in March and August were fairly satisfactory, but the February and November samples were putrescible and showed very incomplete oxidation.

## GWAELODYGARTH.

The effluents from these beds were again very unsatisfactory, showing very little purification.

## GILFACH-FARGOED.

The effluent collected from this source was unsatisfactory, being acid, distinctly putrescible, and containing a large amount of suspended matter.

## NEW TREDEGAR (MON.).

Both effluents were unsatisfactory, being strongly putrescible, and containing no nitrates, with a large amount of unoxidised nitrogenous matter.

## REFUSE DISPOSAL.

DESTRUCTORS.—There are only two refuse destructors in the County, viz., one at Barry, and the other, a Mason's Gasifier, in the Rhondda.

The Medical Officer of Health for Barry writes :—" The collection of the town refuse is done daily by public scavenger, and is conveyed to the Destructor in properly constructed scavenger carts and wagons, where it is at once destroyed. The Destructor was erected in 1900 and opened in February, 1901. The cells are capable of destroying 30 tons of refuse per day of 24 hours. At the present time about 15 tons are destroyed daily. The whole of the buildings and ground are lit by electric light. . . . . The number of tons destroyed during the past year was 4,611 tons 14cwts. . . . . "

The Medical Officer of Health for the Rhondda writes :—" The system of refuse disposal in vogue throughout the district has undergone no material modification in the course of the year 1905. The 200 odd loads of refuse which are collected daily (except Sunday), are conveyed to 15 situations within the Urban District, with the exception of 14 or 15 loads which are burnt at the refuse destructor at Ystrad Rhondda. All the haulage is done by contract. . . . . The majority of the sites on which tipping is practised are within 100 yards of a considerable number of houses, and have been the subject of complaints from time to time. . . . . The Council has had under consideration in the course of the year certain schemes with the view of adopting some system more in consonance with the aims and aspirations of a progressive health authority. Of these, two have had most prominent consideration during the year in question. In the first place, attempts have been made to obtain favourable terms with the Taff Vale Railway Company for conveying the refuse to a suitable dumping ground situated outside the limits of the Urban District, and far removed from human habitations. The Company authorised one of their staff, accompanied by the Council's Surveyor and myself, to visit all their stations within Rhondda for the purpose of selecting, where possible, convenient sites where the refuse could be transferred to the Company's wagons. Later, the Company, with apparent reluctance, submitted terms for the consideration of the Council, but as the initial outlay, as well as the annual expense, would be very considerable, the Council decided to turn their attention to other and perhaps more economical schemes. In the second place it was considered that the method employed by the Colliery Companies within the District might be worthy of imitation. This method generally consists in hauling rubbish in small waggons or " trams " along inclines, more or less steep, to some suitable site on the hill, the power employed being usually steam. . . . . There still remains a third system which merits further consideration on the part of the Council as the most satisfactory from the point of view of the sanitarian, viz., destruction by fire. Now that it appears probable that a tramway system will be laid down in the district, and that the motive power will be electricity, it may be advisable to draw the attention of the Engineers engaged to the exceptionally high calorific value of the Rhondda

house-refuse, for it seems worthy of consideration as to whether its property in this direction cannot be utilised for the generation of steam.....”

The Medical Officer of Health for Caerphilly writes :—“.....Aber Ward. The removal of refuse is carried out satisfactorily, but the need of a destructor becomes yearly a matter of consideration, for it is very difficult to obtain depots for depositing the same.....Taff’s Well Ward.—The removal of refuse has been carried out on the whole satisfactorily, but the need of depots will seriously hamper us in the very near future.”

The Medical Officer of Health for Glyneorwg writes :—“ This is done systematically by scavengers. The tipping sites now utilised are in some cases too near dwelling houses, and also one at Abergwynfi is in too close a proximity to the Council Schools.”

The Medical Officer of Health for Maesteg writes :—“ All house refuse is removed daily from all parts of the district. It is deposited in hollows away from the town, where it causes no nuisance.”

The Medical Officer of Health for Merthyr Tydfil writes :—“ In last year’s report it was stated that the Council had determined to erect a Refuse Destructor, and that a Committee of the Council had been appointed to deal with the matter. On our becoming a Borough a similar Committee was appointed to complete the work of the old Committee. The members of these committees have inspected different types of destructors at work in various parts of the country, and the present Committee have chosen three Destructors, namely, Meldrums’, Hughes & Stirling’s, and that made by the Horsfall Company at Leeds, from which they intend making a final selection with the aid of an expert, if necessary. A recent plant erected by the Horsfall Company at Leeds is not yet in working order, but will be in a very short time ; and when some of the members of the Committee have had an opportunity of inspecting it the final selection will be made. The Borough Surveyor has placed three alternative sites for the erection of the Destructor before the Committee, but strongly recommends one of them alongside of the Traction Company Depot, and this is the site that will probably be chosen.”

The Medical Officer of Health for Ogmore and Garw writes :—“ The house refuse is daily collected and deposited in various ‘ tips ’ throughout the district. These ‘ tips ’ are getting to be a nuisance, and the question of a better disposal of refuse is urgently called for by the Council.”

The Medical Officer of Health for Oystermouth writes :—“ House refuse of all kinds is systematically carted away from pails and other receptacles placed in front of the houses on the days appointed for the visitation of each locality. This miscellaneous collection is carried in tarpaulin-covered carts on to a market gardener’s field at Norton, and there deeply trenched and covered with soil.....This method of disposal is necessarily limited to the wishes of the cultivators desiring this material for their land, and to the accessible waste places away from habitation and traffic ; and when the present tipplings are full, the district is not unlikely to be faced with the imperative alternative of a destructor, or of a steam barge for sea burial.”

The Medical Officer of Health for Pontypridd writes :—“ The collection of the refuse of the District has been fairly well carried out by the several contractors engaged in the work. Its disposal, however, has not been as satisfactory as we would desire. This, of course, has been due to lack of available tipping ground. As regards the Refuse Destructor, we are, unfortunately, in much the same position as we were a year ago. Litigation has taken place between your Council and the owners of the land upon which your Council had already begun the work of erection of the Destructor, but up to the present no satisfactory



terms have been arranged in regard to the points at issue. It is to be hoped that a mutual understanding will soon be arrived at, and the work completed.—... Your Council have decided upon utilising steam motor cars having suitable trailers for the collection and transit of the refuse to the Destructor..... One four-wheeled trailer waggon is now in course of construction.”

The Medical Officer of Health for Porthcawl writes :—“ The scavenging of the District is carried out by the Council’s own workmen and team labour throughout the year.... The refuse at Porthcawl is deposited in the Mercies Quarry, some 240 yards from the nearest dwelling house, and is periodically deodorized with lime,..... fortunately during this year the farmers have found out the value of same on land, and have carted away a considerable quantity, which will again provide additional space for tipping the refuse. The refuse of Newton and Nottage is deposited on fields in the respective districts at an ample distance from dwellings, so as not to become a nuisance.”

The Medical Officer of Health for Gelligaer and Rhigos writes :—“ With the single exception of the leasing of a piece of ground in a suitable position at Pontllytyn, and which is now used for the deposit of the refuse at that place with advantage, there has been no improvement in the method of collection and disposal of domestic refuse. As this is a subject which I consider of much importance, and as the refuse continues to be ‘ dumped ’ in improper places, I cannot do better than repeat what I wrote upon the subject last year :—..... A most serious objection to the present system is that the tipping ground has to be provided by the Contractor, the result naturally being that he deposits the refuse on the nearest available waste ground, no matter how close it may be to the inhabited houses, and this he continues to do until given notice to discontinue doing so by the Sanitary Inspector, when he removes his tipping ground to another site, probably equally objectionable, until a formal notice is again served upon him ; and so it continues, the Inspector following up the scavenging contractor from place to place..... I consider this subject, namely, the collection and disposal of domestic refuse, to be of the utmost importance, and that it should be undertaken by the Council ; in no direction can I look for a more speedy improvement being effected than in this.”

#### POLLUTION OF RIVERS AND STREAMS.

Much work has been done during recent years with a view to prevent the pollution of our rivers by sewage ; and as far as sewage is concerned, I do not experience any difficulty, now that the requirements of the Local Government Board with respect to land are altered on the recommendation of the Royal Commission on Sewage Disposal. In some of our long, narrow, and crooked valleys it is often impossible to acquire sufficient areas of land within reasonable and suitable distances for sewage disposal purposes.

In the whole County there are thirty sanitary districts, and out of these thirteen, representing a population of some 516,000 discharge their crude sewage into *tidal rivers* and the *sea*, and the sewage of some nine, or parts thereof, are treated on sewage farms, of which there are several, large and small, and one of the oldest (Merthyr) in the country.

During the last dozen years, through the action of the County Council, several old sewerage works have been improved, and many new works constructed ; and when the works now in progress are completed, the expenditure on these works will reach a sum of over £600,000 in thirteen years.

With regard to *pollution by small coal*, little has been done in this County, except in a few places where washing machines are used, and where the small coal contained in the washing water, and in the water pumped from the pits, is allowed to settle in large tanks before it is discharged into the rivers, the



reason for the fact that so little has been accomplished in this direction being that small coal causes 'inocuous discolouration,' and this is not considered to be pollution according to the Rivers Pollution Prevention Acts. This shows that extended powers by a Special Act or the amendment of the existing Acts is very necessary in this Country.

With regard to pollution caused by Tinplate Works, I would refer you to my Quarterly Report for December, 1902. It is much less than was the case a few years ago, for now at nearly all of these works the "pickle," by the addition of scrap iron and continuous evaporation in properly constructed vats, is completely converted into sulphate of iron ( $\text{FeSO}_4$ ), or "copperas."

Particulars in respect of these works and the effluents therefrom are given in each of my Quarterly Reports, to which I would refer you.

The "swilling fluid" is in some places filtered through filters of broken limestone and of earth, and a large proportion of the acid and other impurities is thus got rid of, provided these filters are changed as often as required. There is, however, a tendency to allow these filters to take care of themselves, which they are unable to do, and consequently constant supervision is necessary.

It is worthy of note that :—

- I. All the Glamorgan rivers have their origin within the County, or in the mountainous and uninhabited regions immediately beyond the northern boundary of the County, at elevations varying from 1,000 to 2,000 feet. They are consequently comparatively short, swift-running, the longest not more than 40 miles, so that their pollution takes place almost entirely in the County, and consequently it should not be so difficult (as in flat countries) to abate. Besides, no joint river boards are necessary.
- II. The water of *none* of the Glamorgan rivers is *used for drinking purposes* after any sewage has been discharged into them. Such a condition of things is highly satisfactory as compared with other important rivers, such as the Dee, Severn, &c.
- III. The principal pollutions of rivers in Glamorgan are occasioned by :—
  - (a) Sewage—excremental and slop sewage.
  - (b) Small coal—from our many collieries ; and
  - (c) Refuse from tinplate works—consisting of vitriol and sulphate of iron.

I would quote a few paragraphs from the evidence which I gave before the Royal Commission on Sewage Disposal, thus :—

- (a) That in this County, at any rate, greater progress would have been made in purifying our rivers had *not* the Local Government Board insisted, under all circumstances, on the hard-and-fast rule of land treatment in addition to artificial filtration.
- (b) That it is important to have as many Joint Sewerage Districts as possible in such a County as Glamorgan, where the valleys are so narrow and land difficult to obtain.
- (c) That no crude sewage should be discharged into the sea except after the most careful consideration of *all* local circumstances, and after careful experiments made with different float materials as to direction of the currents at various conditions of the tide.

- (d) That similar experiments and examinations of the water (chemical and bacterial) should be made in the case of tidal rivers and estuaries.
- (e) That the Government should countenance the establishment of Health Laboratories where sewage effluents, and manufacturers' refuse, and other materials discharged into rivers, estuaries, sea, &c., can be thoroughly examined, if and when required, and that these should be under the control of the County Councils.

Below is given the substance of the references to this subject given in the local reports :—

The Medical Officer of Health for Aberavon writes :—“The pollution of the River Afan by the populous communities up the Afan Valley continues, and no appreciable efforts are made to prevent the continuance of this nuisance.”

The Medical Officer of Health for Pontypridd writes :—“..... It is a matter for regret, but nevertheless quite unavoidable, that tipping has taken place on the banks of the Rivers Taff and Rhondda, and this cannot be accomplished without some of the refuse getting into the stream and thus polluting them in contravention to the Rivers Pollution Act.”

The Medical Officer of Health for Cowbridge Rural writes :—“The only improvement effected in regard to river pollution has been at Pontyfelon, where the ‘swillings’ no longer enter the Ely River.....”

The Medical Officer of Health for Llandilo-Talybont writes :—“River pollution is inevitable, as Gowerton is the only village in this Division which has been provided with a sewer.”

A great deal of work, however, has been done during the year to reduce the pollution of rivers taking place in the County, and the following schemes of sewerage completed, in construction, or about to be undertaken, will greatly reduce the pollution by sewage that has taken place :—

*In the Watershed of the Rhymney.*

The sewerage of Pontlottyn, Troedrhwiwuch, Tirphil, Bargoed, and Gilfach, completed.	} Gelligaer District.
The sewerage of Fochriw, Pentwyn, Deri, Bedlinog, and Trelewis, completed.	
The sewerage of Hengoed, Ystradmynach, and Gelligaer about to be undertaken.	
The sewerage of Senghenydd, Aber, and Caerphilly, completed.	} Caerphilly District.
The sewerage of Pwllypant and Llanbradach, completed.	

There yet remains to be sewered in this Watershed the following places, viz. :—Fleur-de-lis and Maescymmer (Mon.) ; Hengoed, and part of Ystradmynach, Gelligaer District ; and Ystradmynach (part of) in Caerphilly District.

*In the Watershed of the Taff.*

Cefn-Coed-Cynmer (in Vaynor and Penderyn District). The work has been commenced. At present all the sewage is discharged into the Taff River at various points.

The sewerage of Merthyr is practically complete, with the exception of a few isolated houses.

The sewerage of Aberdare and Mountain Ash is practically complete.

In the Rhondda at the end of the year there remained 451 houses unconnected (as compared with 504 at the end of 1904), viz. :—Bush houses, 50, Appletree, Dinas, about 50, and scattered farms, &c.

The sewerage of Pontypridd is practically complete, but a few subsidiary sewers are still required, and are being provided.

The sewerage of Taff's Well Ward Villages (Caerphilly District) completed.

The sewerage of Pountauna, &c., completed (in the Llandaff and Dinas Powis District).

*In the Watershed of the Ely.*

The following places are sewered, viz. :—Ely, St. Fagans, New Mill, Pontyclun, Brynsadler, Llantrisant, Tonyrefail, Edmundstown, and Penrhiwfer.

Sewage Disposal Works for Tonyrefail, Pentonteg, Efail Isaf in hand, that of Church Village completed.

*In the Watershed of the Ogmore River.*

Bridgeend, Tondy, Aberkenfig, Bryncoch, Bryncethin, Brynmenyn, and all the area included in the District of the Penybont Joint Sewerage Board are sewered.

The sewerage of Maesteg is completed.

The sewerage of the Garw Valley is almost completed.

In the Ogmore and Ogmore Fach Valleys, Sewerage and Sewage Disposal Works are required.

*In the Afan Watersheds.*

Glyncorwg unsewered. Pontrhydyfen and Cwmavon unsewered. The slop sewage of a part of Cwmavon is dealt with in bacterial tanks, but in a very inefficient manner.

The sewerage of Pantdu, Corlannau, and Velindre, completed.

*In the Watershed of the Neath Valley.*

All the centres in this valley, except Skewen, are unsewered, viz. :—Pontneathvaughan, Glyn-Neath, Resolven, Clyne, Aberdulais, Cadoxton, Cilfrew, and Seven Sisters.

*In the Watershed of the Tawe (Swansea Valley).*

The sewerage of Pontardawe has been completed, and it is the Council's intention to undertake the sewerage of Clydach, Ystalyfera and Cwmgorse at an early date.

The populous centres in the Llangyfelach Division are unsewered.

*In the Watershed of the Loughor.*

None of the important centres in the Pontardawe and the Llangyfelach Districts within this Watershed are sewered.



From the above resumé it will be seen that much work is being done with a view of preventing the pollution of our rivers by sewage, and, as far as sewage is concerned, I do not experience any difficulty now that the requirements of the Local Government Board with respect to land are altered on the recommendations of the Royal Commission on Sewage Disposal.

The pollution of rivers which the County Council has to contend with takes place *entirely* within the County, that is to say, all our rivers have their origin practically within the County or very near the boundary. It is satisfactory to put on record that “pollution by sewage” is becoming less, year by year, as schemes of sewerage and sewage disposal are being carried out; and when the many schemes now undertaken or about to be undertaken are completed it will become still less.

The discolouration of rivers and streams by small coal washings is a difficult one to abate in this County, and the Rivers Pollution Prevention Acts should be so amended as to be applicable to small coal washings and tinplate effluents, as is the case in other industrial centres. Sections 14 and 15 of the Mersey and Irwell Joint Committee Act, 1892, read thus :—

“Sec. 14.—(1) In this Act—

The term “person” includes a Sanitary Authority and any other body of persons whether corporate or not corporate.

The term “stream” includes canalised streams, brooks, and watercourses.

The term “solid matter” does not include particles of matter in suspension in water.

(2).—Any liquid which merely occasions innocuous discolouration of any river or stream shall not be deemed to be polluting for the purposes of this Act.

Sec. 15.—Notwithstanding anything in this Act contained, no person shall be deemed to have committed an offence against this Act or be liable to any proceeding under this Act by reason or in consequence of any water flowing into the River Mersey or the River Irwell, or any tributary thereof respectively, in the same condition as that to which such water has been drained or raised from any mine, pit shaft, or quarry, by reason or in consequence of any water flowing into the River Mersey or the River Irwell, or any tributary thereof respectively, from any colliery or pit bank, or by reason or in consequence of any water so flowing which has passed through an efficient settling tank in connection with any coal-washing machinery.”

I would again call the attention of Local Authorities who allow sewage to be discharged into watercourses, to Sec. 1 of the Rivers Pollution Prevention Act, 1893 :—“*Where any sewage falls or flows, or is carried into a stream after passing through or along a channel which is invested in a Sanitary Authority, the Sanitary Authority shall, for the purposes of Sec. 3 of the Rivers Pollution Prevention Act, 1876, be deemed to knowingly permit the sewage matter so to fall, flow, or be carried.*”

The section of the 1876 Act referred to above runs :—“*Every person who causes to fall or flow, or knowingly permits to fall or flow, or be carried into any stream, any solid or liquid sewage matter, shall (subject as in this Act mentioned) be deemed to have committed an offence against this Act.*”

It may be noticed that by Sec. 14 of the Local Government Act, 1888, the County Council has power to enforce the provisions of the above.



## FACTORIES AND WORKSHOPS.

Three years ago attention was called to the provisions of the Factory and Workshops Act, 1901, under which extended supervision of Workshops was imposed on Medical Officers of Health, and they were required to report upon them annually. From the reports under review it is evident that some District Councils have regarded the new duties as important. For further particulars I would refer you to local summaries.

*Underground Bakehouses.*—Section 101, Factory and Workshops Act, 1901, enacts—That an underground bakehouse shall not be used as a bakehouse unless it was so used at the time of the passing of this Act, and those in use at the time of the passing of this Act shall not continue to be used after the 1st January, 1904, unless certified by the District Councils to be fit for that purpose.

## MIDWIVES ACT 1902.

I have already in my various reports to the Executive Sub-Committee under the Act, given a synopsis of this Act, and, in my Annual Report for 1904, there is appended a copy of the Presidential Address which I delivered on taking office, before the South Wales and Monmouthshire Branch of the British Medical Association on “The Midwives Act, 1902, and its Administration in Glamorgan.”

A course of theoretical training has been established at the University College of South Wales and Monmouthshire in accordance with the regulations of the Central Midwives Board, for women who intend sitting for the Board's examination. Dr. Ewen J. Maclean is the lecturer in Midwifery at the College. During the year ended October, 1905, 83 pupil midwives had attended the course, of which 50 were from the Administrative County. The Local Supervising Authorities of the Administrative County of Glamorgan and of the City of Cardiff contribute towards the expenses of this course, and are thereby entitled to nominate suitable candidates for free studentships. The Committee of the Queen's Nursing Institute at Cardiff have also established a Maternity Department, and are taking pupils for the practical training of midwives. Both the theoretical training at the College and the practical course in connection with the Nursing Institute have been recognised by the Central Midwives Board as qualifying for admission to their examination.

Two other centres of instruction have been established within the Administrative County, viz. :—one at Llantwit Major and the other at Merthyr Tydfil. Besides, a certified midwife residing at Dowlais has been recognised by the Central Midwives Board as a suitable person to undertake the supervision and the training of pupil midwives in the practical part of the work.

At the close of the year 1905 there were 618 midwives certified under the Act, practising within the area of County Supervising Authority; of these, 573 were certified as being in *bona-fide* practice, and 36 on the ground of holding a certificate of the London Obstetrical Society, four of the Queen Charlotte's Lying-in-Hospital, three of the Rotunda Hospital, Dublin, two of the Glasgow Maternity Hospital.

Nurse S. A. RICHARDS, L.O.S., the Inspector under the Act, visited the homes of the midwives and supervised their practice under the supervision of the Executive Officer.

During the year 608 visits, and 212 re-visits, have been paid by her, and many special investigations were also made by the Executive Officer, and below is given in tabular form particulars of the conditions found to exist,

## MIDWIVES—NUMBER VISITED.

No. on Roll of Central Midwives Board.	Number Visited.	Number Trained.	Washable Dresses.	Disinfectants.	Record Book.	Book of Rules.	Case Book.	Bag of Appliances.
751	45	45	45	45	45	45	45	45
..	118	..	118	118	118	118	118	118
..	147	..	147	147	147	147	147	..
..	108	..	108	108	108	108	..	..
..	8	..	..	8	8	8	8	8
..	91	..	..	91	91	91	..	..
..	12	..	12	..	12	12	12	12
..	31	..	..	..	31	31	..	..
..	26	..	..	..	26	..	..	..
..	22	..	..	..	..	..	..	..
Total visited during year 1905.	608	45	430	517	586	560	330	183

From the above Table it will be seen that out of the 608 visited during the year, 45 were trained midwives, and the remaining 573 have received their certificates from the Central Midwives Board on account of having been in *bona-fide* practice for a year prior to the passing of the Act. Of these, 430 wore washable dresses, 517 used disinfectants, 586 possessed record books, 560 had books of rules, 330 had case books, and 183 had bags of appliances.

#### DAIRIES, COWSHEDS, AND MILKSHOPS ; AND VETERINARY INSPECTION OF DAIRY CATTLE.

Under the Dairies, Cowsheds, and Milkshops Order, it is unlawful for anyone to carry on the trade of cowkeeper, purveyor of milk, or dairyman, unless registered by the local authority. Local authorities may make regulations as to the lighting, ventilation, cleansing, minimum cubic space per cow, and the water supply, &c., of such premises. A register should be kept of dairies and milkshops in each District. Regulations have been made by all District Councils.

The inspection of these premises is supervised in a very lax way in most Districts. The importance of satisfactory hygienic surroundings to the health of the cow and the quality of the milk obtained therefrom is not fully appreciated. It is a subject, however, which merits more attention at the hands of all our Sanitary Authorities.

For the very scant information contained in most of the local reports, I would refer you to the District summaries. It is important to bear in mind that :—

- (1) All cowsheds should be cleansed once daily at least.
- (2) They should be limewashed at least twice a year ; and that
- (3) The minimum cubic space per cow in Urban Districts should be from 600 to 800 cubic feet.

With the improvement of the health of the cattle, the quality of milk—the food supply of infants—would improve, and would help to decrease the sustained high infant mortality, which has so long characterised Glamorganshire.

The Report of the Royal Commission appointed to inquire into the administrative procedures for controlling dangers to man through the use as food of the meat and milk of tuberculous animals, was presented to Parliament in 1898, so as to ensure the freedom of milk from tuberculous elements, they recommend that (a) notification of every disease of the udder be made compulsory on the owners of all cows, whether in private dairies or those in which the milk is offered for sale; (b) local authorities (which have not done so already) should be required to adopt and enforce regulations as to cowsheds, dairies, &c.; (c) no cowshed, byre, or shippin, other than those already registered, should be permitted in Urban Districts, within 100 feet of any dwelling-house. The following is also a very important recommendation, viz.:—"That the condition of the attached cowsheds that shall warrant the registering of a dairy in a populous place, whether technically Urban or Rural, in future shall include the following—(1) an impervious floor; (2) a sufficient water supply for flushing; (3) proper drainage; (4) a depot for the manure at a sufficient distance from the byres; (5) a minimum cubic space as regards such byres of from 600—800 for each adult beast, varying according to the average weight of the animals; (6) a minimum floor space of 50 feet to each adult beast; and (7) sufficient light and ventilation. As regards these cubic contents, such space per cow should be provided as will, in view of the surrounding circumstances, secure reasonable ventilation without draught."

As far as I have been able to gather, regulations under the Dairies, Cowsheds and Milkshops Order 1885, have been framed in all the Districts. Whether these regulations are enforced or not I am unable to say definitely, as the information contained in the district reports under the head is very meagre.

As regards the veterinary inspection of cattle, I am unable to speak authoritatively, but I have reason to believe that this is not carried out systematically—if at all—in any of the districts.

This matter, together with that of the inspection of meat and other foods, is of such great importance, that I propose to report upon them at an early date.

#### SLAUGHTER HOUSES AND INSPECTION OF MEAT.

The Medical Officer of Health for Aberavon writes:—"The public slaughterhouse is discreditable to the town—in the same compound are stables, and the conditions under which the Corporation horses are housed do not commend themselves to persons with a tender feeling for animals."

There is no reference made in this report to meat inspection.

The Medical Officer of Health for Barry writes:—"The public abattoir is situated off Court-road. It has been visited daily, and found to be kept clean, and in compliance with the bye-laws. 12,294 animals were slaughtered, as compared with 10,576 in 1904. These included 1,430 beasts, 7,859 sheep, 225 calves, 2,780 pigs. In no instance was any of the animals found to be diseased or unfit for human consumption."

240 lbs. of meat was seized by the Inspector.

The Medical Officer of Health for Bridgend writes:—"Dr. Bulstrode holds that 'the accommodation afforded by the slaughter-house is far from satisfactory, and some of the butchers complained on the subject, at the same time expressing a wish that a public abattoir, properly administered, should be provided.' As I have previously stated, with this opinion I coincide cordially....."

The Medical Officer of Health for Briton Ferry writes:—"The slaughter-houses have been inspected frequently, and, as far as possible, have been kept in a sanitary condition, but these places are quite



unfit for the purpose for which they are being used. A public slaughter-house is urgently needed. I understand that plans for this purpose have been before the Council for some time, prepared by Mr. Clarke, our Sanitary Inspector. In the interest of the public, this matter should be attended to."

The Medical Officer of Health for Caerphilly writes :—" Of the various slaughter-houses in the Town Ward I am sorry to say that I do not think *one* fit for the purpose, and the decision to erect a public one is still under consideration. . . . . The provision of a suitable public slaughter-house is a very necessary adjunct to this (Ystradmynach Ward) growing district. . . . . Nelson Ward—It would undoubtedly be advantageous to have a small public slaughter-house erected here. Taff's Well Ward—The provision of a cemetery and also a public slaughter-house will supply great public needs when finished."

The Medical Officer of Health for Cowbridge Borough writes :—" The Blue Bell slaughter-house is still in possession of the ' field,' though greater care is being exercised to keep it in a fairly sanitary state than has been the case in previous years. The scheme for a public slaughter-house appears to have died a natural death, as have the various schemes for improvements of far more vital importance of previous years. . . . . "

The Medical Officer of Health for Maesteg writes :—" These are all private, and are periodically inspected. As a result of the last inspection, the Inspector reported : ' The interiors of the slaughter-houses were found clean, but the surroundings of five were dirty and unkempt. . . . Each slaughter-house should be provided with a portable receptacle for manure and offal, which should be removed after each slaughtering.' A public slaughter-house has now been urged for several years. There are licensed slaughter-houses in the district, and, scattered as they are, it is almost impossible to exercise a perfect supervision over them. A public slaughter-house would be advantageous in many respects, and then it would be possible to make regular inspections of the meat supply."

The Medical Officer of Health for Pontypridd writes :—" The public abattoir, as in the past, has been satisfactorily administered and kept in a sanitary state. . . . . The head of cattle slaughtered during the year at the abattoir totalled 14,901, as compared with 13,963 in the previous year. The six private slaughter-houses in the district were frequently inspected. One defective drain discovered was remedied. All of the slaughter-houses were kept in a good sanitary state."

The Medical Officer of Health for Porthcawl writes :—" All the slaughter-houses in the district are private ones, and are four in number. During the year one new slaughter-house has been built as the outcome of notices served by the District Council. Two slaughter-houses are still not in accordance with the prescribed distance limit."

The Medical Officer of Health for the Rhondda writes :—" The 41 slaughter-houses in the district were inspected 1,076 times during the year."

The Medical Officer of Health for Cowbridge Rural writes :—" Twenty-six visits have been made to the licensed slaughter-houses. Two unlicensed premises are used for this purpose at Brynna and Llantwit Major."

The Medical Officer of Health for Gelligaer and Rhigos writes :—" *Slaughter-houses.* These are regularly inspected. Some of them require frequent visits to keep them up to the required standard. I think a public abattoir at Bargod would be a great advantage and would pay its way."



The Medical Officer of Health for Gower writes :—"The Council adopted the bye-laws with regard to the slaughter-houses allowed by the Local Government Board last year. They were inspected twice during the year, and the owners are complying to a very large extent to the rules laid down by the Council. . . . . The clause with regard to covered utensils has not been carried out, and I think that it is hardly necessary in our district. . . . ."

The Medical Officer of Health for Llandaff and Dinas Powis writes :—"The whole of the District is invested with urban powers relating to slaughter-houses, and repeated visits have been made in order to see that the occupiers comply with the bye laws. . . . . Owing to the number of slaughter-houses, and the wide area over which they are distributed, it has been impossible to make systematic inspection of the carcasses after slaughtering, but every opportunity is taken to inspect the meat exposed for sale."

The Medical Officer of Health for Llantrisant and Llantwit Fardre writes :—"With reference to slaughter-houses, I have only to repeat what I have so many times said, that, with few exceptions, they are perfectly unfit for the purpose. They are badly paved and drained, inadequately supplied with water, air and light, and in many instances too near dwelling houses."

The Medical Officer of Health for Penybont writes :—"The state of slaughter-houses is sometimes better, sometimes worse, but always unsatisfactory at Aberkenfig. The erection of a public abattoir is a prime necessity for Aberkenfig and neighbourhood."

The Medical Officer of Health for Pontardawe East writes :—"These are 14 in number, and were found on inspection properly kept."

The Medical Officer of Health for Pontardawe West writes :—"The number on the register December 31st, 1905, was 16, and 72 visits of inspection were made, with the result that 17 nuisances were remedied or removed."

The Medical Officer of Health for Llandilo-Talybont writes :—"Since the adoption of the new bye-laws, the condition of the slaughter-houses has vastly improved. Some old ones have been discontinued, others have been altered to meet the requirements, and several new ones have been provided. The number of slaughter-houses is now 21, of which three have not yet been granted registration, on account of minor structural defects."

From the above extracts it will be seen that in only a few instances is meat inspection undertaken in the County, and I am in a position to state that the inspection of meat and other articles of food is not even attempted in some districts.

There are public abattoirs at Aberavon, Aberdare, Barry, Bridgend, Neath Borough, and Pontypridd.

Public slaughter-houses are recommended for Briton Ferry, Caerphilly, Maesteg, Margam, Ogmore and Garw, Oystermouth, Penarth, Porthcawl, Llantrisant and Llantwit-Fardre, and they are much required, as their presence would enable the Authorities to cause more efficient inspection of animals and meat to be made than they can make under the present circumstances.

During 1902, the Urban District of Caerphilly obtained a Provisional Order enabling them, amongst other matters, to build a slaughter-house and approaches thereto in populous centres of their District.

The powers therein conferred upon them have not *yet* been made use of, although nearly *four* years have elapsed. Barry is the only District in the County that can boast of the fact that it has *no* private slaughter-house.

### SEIZURE AND CONDEMNATION OF TUBERCULOUS MEAT.

In a letter issued in 1904 by the Secretary of the Local Government Board to the Clerks of District Councils it is stated :—

I am directed by the Local Government Board to state that they have had under consideration the Report of the Select Committee of the House of Commons on the Tuberculosis (Animals) Compensation Bill, 1904, in which reference is made (*a*) to the variety of practice alleged to exist with regard to the amount of tubercular deposit, the existence of which in a carcase is held to justify its total condemnation ; and (*b*) to complaints made by butchers as to the injury caused to them by their prosecution in open court for having tuberculous meat upon their premises.

With regard to (*a*) it appears to the Board to be most desirable that there should be uniformity in the practice of Meat Inspectors in dealing with the carcasses of cattle ; and they have already on two occasions, viz., in their Circular letters of the 11th March, 1899, and 6th September, 1901, set out, and urged the observance of, the principles laid down by the Royal Commission on Tuberculosis in their report of 1898 with respect to the degree of tubercular disease which should cause a carcase or part thereof to be seized. The Royal Commission stated as follows :—

“ We are of opinion that the following principles should be observed in the inspection of tuberculous carcasses of cattle :—

- |   |   |  |
|---|---|--|
| (a) When there is miliary tuberculosis of both lungs.   | } | The entire carcase and all the organs may be seized.   |
| (b) When tuberculous lesions are present on the pleura and peritoneum.  |   |  |
| (c) When tuberculous lesions are present in the muscular system, or in the lymphatic glands embedded in or between the muscles. |   |  |
| (d) When tuberculous lesions exist in any part of an emaciated carcase.   |   |  |
| (a) When the lesions are confined to the lungs and the thoracic lymphatic glands.   | } | The carcase, if otherwise healthy, shall not be condemned, but every part of it containing tuberculous lesions shall be seized.” |
| (b) When the lesions are confined to the liver.   |   |  |
| (c) When the lesions are confined to the pharyngeal lymphatic glands.   |   |  |
| (d) When the lesions are confined to any combination of the foregoing, but are collectively small in extent.                    |   |  |

The Board are of opinion that, at the present time, measures more stringent than those advocated by the Royal Commission are not called for ; but they would impress upon the Council

the expediency and desirability of insisting upon those of their officers who are employed as Meat Inspectors acting in strict accordance with the principles thus laid down, if this is not already the case.

With regard to (b) the Select Committee express their view that, if a butcher who is in possession of tuberculous meat has notified the fact to the proper authority as soon as he could be reasonably expected to be aware of it, the case should not be taken into Court.

The Board understand that in some districts the course recommended by the Committee is followed now, but where this is not so the Board suggest that, having regard to the serious consequences which may result to a butcher from prosecution in open court for being in possession of tuberculous meat, the Council should act upon the view expressed by the Select Committee in cases where such possession is voluntarily and promptly disclosed by the owner."

The following is a paragraph from "The Interim Report of the Royal Commission appointed to inquire into the relation of Human and Animal Tuberculosis."

"We have very carefully compared the disease thus set up in the bovine animal by material of bovine origin, and so far we have found the one, both in its broad general feature and in its finer histological details, to be identical with the other. We have, so far, failed to discover any character by which we could distinguish the one from the other; and our records contain accounts of the post-mortem examinations of bovine animals infected with tuberculosis material of human origin, which might be used as typical description of ordinary bovine tuberculosis."

#### PUBLIC HEALTH LABORATORY.

This Laboratory was established by the Glamorgan County Council in 1899, but very soon afterwards it became under the control of a Joint Committee, consisting of Members of the Health Committee of the Corporation of the City of Cardiff, and of Members of the Sanitary Committee of the Glamorgan County Council, together with representatives of the Technical Instruction Committee of the City of Cardiff.

The Medical Officers of Health of the City of Cardiff and of the Glamorgan County Council respectively are the Directors of the Laboratory.

The systematic work carried out here, consisting of the regular chemical and bacteriological examination of all public water supplies, of samples of food, milk, meat, &c., and of specimens sent by medical men, is of the greatest importance and utility to the sanitary welfare of the City and the County. The special investigations undertaken, more particularly those relating to some cases of plague and suspected plague, anthrax, &c., have been of great practical value. The scheme by means of which Medical Practitioners in the County, on payment of a small fee, in cases of suspected Typhoid Fever, Diphtheria, Tuberculosis, &c., can have made an examination of blood or other material from patients believed to be suffering from these diseases respectively has been successful, but not to the extent I had anticipated.

I have received from many Medical Officers of Health and others testimony of their appreciation of work undertaken, and I have reason to believe that the ravages and spread of infectious diseases have been frequently prevented by the aids thus afforded.

A detailed account of all the work carried out during the year is given in the Sixth Annual Report prepared by Dr. H. A. Schölberg, and, as it has not been circulated amongst the Members of the County Council, it is here partly reproduced.

TABLE XXI.

## SPECIMENS EXAMINED :—

Suspected Diphtheria	..	..	..	..	..	..	..	291
Suspected Typhoid Fever (Serum Diagnosis)	..	..	..	..	..	..	..	169
Sputum for Tubercle Bacilli	..	..	..	..	..	..	..	284
„ „ „ (Notified Cases)	..	..	..	..	..	..	..	85
Pus Examinations	..	..	..	..	..	..	..	58
Diseased Meat	..	..	..	..	..	..	..	20
Milk, General Examinations	..	..	..	..	..	..	..	72
„ for Specific Contamination	..	..	..	..	..	..	..	3
Anthrax (Human)	..	..	..	..	..	..	..	1
„ (Bovine)	..	..	..	..	..	..	..	8
Other Examinations	..	..	..	..	..	..	..	28
								<hr/> 1,019

## PATHOLOGICAL AND CHEMICAL EXAMINATIONS :—

Urine Analyses	..	..	..	..	..	..	..	122
Morbid growths	..	..	..	..	..	..	..	29
Blood Examinations	..	..	..	..	..	..	..	16
Milk Examinations	..	..	..	..	..	..	..	58
Air (Chemical)	..	..	..	..	..	..	..	3
Oil Analyses	..	..	..	..	..	..	..	4
Coal Mine Gases	..	..	..	..	..	..	..	18
Drainage Waters	..	..	..	..	..	..	..	5
Other Examinations	..	..	..	..	..	..	..	45
								<hr/> 300

## SAMPLES OF WATER, SEWAGE, AND EFFLUENTS.

## DRINKING WATER :—

Bacteriological Examinations	..	..	..	..	..	..	..	280
Chemical	..	..	..	..	..	..	..	209

## SEWAGE AND SEWAGE EFFLUENTS :—

Bacteriological Examinations	..	..	..	..	..	..	..	46
Chemical	..	..	..	..	..	..	..	79

TRADE EFFLUENTS (Chemical)	..	..	..	..	..	..	..	97
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711

Total .. .. 

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2,030



TABLE XXII.

Comparison of the Records of 1904 and 1905 :—

Nature of Examination.	1904.	1905.	Increase.	Decrease.
Suspected Diphtheria .. ..	414	291	—	123
Suspected Typhoid Fever .. ..	197	169	—	28
Sputum for Tubercle Bacilli .. ..	350	369	19	—
Waters—Bacteriological .. ..	323	280	—	43
„ Chemical .. ..	254	209	—	45
Diseased Meat .. ..	31	20	—	11
Anthrax .. ..	4	9	5	—
Milk Examinations .. ..	9	130	121	—
Sewages and Effluents .. ..	250	222	—	28
Other Examinations .. ..	346	331	—	15
	2,178	2,030	145	293
			Decrease—148	

The figures submitted in Table XXII. show a decrease of 148 for the year 1905. This is due to the fact that the work of the Laboratory was of necessity suspended after the fire in April, 1905. Had the work been continuous throughout 1905, there would have been an increase on the figures of 1904.

Table XXIII. shows the contributions of Cardiff and the County towards the three infective diseases : Diphtheria, Typhoid Fever, and Pulmonary Tuberculosis.

TABLE XXIII.

Source.	Nature of Examination.	No. of Positive Results.	No. of Negative Results.	Total.	Percentage of Positive Results.
Cardiff .. ..	Suspected Diphtheria .. ..	25	77	102	24.50
County .. ..	„ .. ..	53	136	189	28.04
Cardiff .. ..	Suspected Typhoid .. ..	18	24	24	42.85
County .. ..	„ .. ..	79	48	127	62.20
Cardiff .. ..	Suspected Pulmonary Tuberculosis ..	131	165	296	44.19
County .. ..	„ .. ..	28	45	73	38.35

Table XXIV. gives the number of Specimens received from Cardiff and the County respectively. The Samples from Swansea are included in the County figures. Sewages, Effluents and Trade Effluents are grouped under one heading—Sewages ; and Specimens include examinations other than those grouped under Waters or Sewages.

TABLE XXIV.

Source.	Waters Examined.	Sewages Examined.	Specimens Examined.	Total.
Cardiff .. ..	180	..	803	983
Administrative County .. ..	309	222	516	1,047
	489	222	1,319	2,030

TABLE XXV.

Classes held in 1905 :—

Class.	When held.	Lecturer.	No. of Students.
Bacteriology—Lectures and Practical	August-October ..	Mr. Schölberg .. ..	1
D.P.H. Revision Class—Bacteriology	November .. ..	„ .. ..	1
Clinical Bacteriology .. ..	„ .. ..	„ .. ..	1
Chemistry—Lectures and Practical	January-March, and October—December	Mr. Sugden .. ..	3
D.P.H. Revision—Chemistry ..	November .. ..	„ .. ..	2
D.P.H. Outdoor Sanitary Work ..	Six Months .. ..	Dr. Walford and Dr. Williams	3
Sanitary Inspectors' Classes.. ..	October-December ..	„ .. ..	10

The teaching work of the Public Health Laboratory has been successfully carried on during the year 1905.

With regard to the number of specimens sent by Medical Practitioners, the figures submitted show a slight decrease on that recorded in the year 1904. This is accounted for by the fact that the work had to be suspended for a time on account of the fire that occurred in the Laboratory Buildings.

Apart from the work above stated, what may be considered the more important part of the Laboratory work, the Public Health portion, has been fully developed. The City and County have freely availed themselves of the opportunity of securing technical information on questions of importance. For the City, monthly examinations of the Public Water Supply have been carried out, as well as numerous analyses of samples of water from vessels calling at Cardiff. Many of the latter have been condemned as unfit for drinking purposes, while for the former, it has been shown that though the filtered water may be considered satisfactory, a potential danger exists in the liability to pollution of the water at the Beacons Reservoir.

During the year, a number of samples were examined to test the efficiency of the Candy and Reeves' Filters.

A large number of samples of coal mine gasses, and samples of air from schools, were also examined.

#### BYE-LAWS AND REGULATIONS.

There are no references in District Reports as to these.

#### SANITARY LEGISLATION.

Little or nothing was done in the way of sanitary legislation during the year. Another year has been allowed to elapse without the introduction of the much needed and long promised Bill to amend and consolidate the law relating to Public Health. In spite of the fact that such a measure was promised in the King's Speech at the opening of Parliament in February, 1904, this question has not been seriously taken in hand.

#### HOUSING OF THE WORKING CLASSES.

*Buildings unfit for Human Habitation.*—Section 30 of the Housing of the Working Classes Act, 1890, reads :—" It shall be the duty of the Medical Officer of Health of every District to represent to the Local Authority of that District any dwelling-house which appears to him to be in a state so dangerous or injurious to health so as to be unfit for human habitation."

*Section 32 reads :—" It shall be the duty of every Local Authority to cause to be made from time to time inspection of their District, with a view to ascertain whether any dwelling-house therein is in a state so dangerous or injurious to health as to be unfit for human habitation, and if on the representation of the Medical Officer, or of any officer of such Authority, or information given, any dwelling-house appears to them to be in such state, to forthwith take proceedings against the owner or occupier for closing the dwelling-house under the enactments set out in the Third Schedule to this Act."*

A considerable activity has been shown generally in improving the houses and sanitary surroundings of the working classes. Nearly all the reports refer to the action taken under Part II. of the Housing of the Working Classes Act, 1890, and as far as can be gleaned from the reports the number of houses newly built, inspected, condemned, closed, repaired, rebuilt, &c., are tabulated below :—

TABLE XXVI.

DISTRICT.	New Houses.	No. Inspected.	No. Represented as Unfit.	No. Closed.	No. Repaired.	No. Demolish'd.	No. Rebuilt.	Remarks.
<b>URBAN.</b>								
Aberavon .. ..	..	1,555	..	6	8	2	..	Number of new houses not given.
Aberdare .. ..	..	..	..	..	..	..	..	
Barry .. ..	..	1,210	..	..	..	..	..	Particulars of nuisances abated are given.
Bridgend .. ..	27	241	..	6	7	..	..	Particulars of nuisances abated are given.
Briton Ferry .. ..	..	..	..	..	..	..	..	No particulars given.
Caerphilly .. ..	..	..	..	..	..	..	..	No particulars.
Cowbridge Borough ..	..	..	..	..	..	..	..	No particulars.
Glyncorwg .. ..	..	..	..	..	..	..	..	No particulars.
Maesteg .. ..	205	..	6	6	..	..	..	A list of nuisances abated is given.
Margam .. ..	..	..	..	..	..	..	..	A detailed report is presented by the Inspector.
Mountain Ash ..	398	..	..	..	..	..	..	No other particulars given.
Merthyr .. ..	214	2,990	57	17	..	..	..	
Neath Borough .. ..	..	..	..	..	..	..	..	
Ogmore and Garw ..	108	..	..	..	..	..	..	
Oystermouth .. ..	..	..	..	..	..	..	..	No information given.
Penarth .. ..	..	..	..	..	..	..	..	No information given.
Pontypridd .. ..	192	5,184	..	..	..	..	..	Plans for 25 houses submitted to Local Government Board for approval, and sanction for a loan of £5,000 was obtained.
Porthcawl .. ..	..	..	..	..	..	..	..	No information given.
Rhondda .. ..	904	16,116	..	..	..	..	..	
<b>RURAL.</b>								
Cowbridge .. ..	12	..	..	..	..	..	..	
Gelligaer & Rhigos ..	541	1,019	3	3	..	..	..	
Gower .. ..	..	..	..	..	..	..	..	
Llandaff and Dinas Powis ..	127	2,890	2	2	..	..	..	
Llantrisant & Llantwit Fardre ..	..	696	1	..	..	..	..	
Neath .. ..	..	..	..	..	..	..	..	
Penybont .. ..	49	..	1	..	..	..	..	
Pontardawe East ..	..	1,300	..	..	..	..	..	
Pontardawe West ..	..	..	..	..	..	..	..	
<b>Swansea Rural :</b>								
Llandilo-Talybont ..	..	1,139	50	14	20	14	..	
Llangyfelaeh Division ..	..	268	27	6	15	1	..	



The Medical Officer of Health for Aberavon writes :—" . . . . . Quite 35% of the working men's houses in the Borough are old houses, many built some 50 or 100 years ago, before modern building regulations came into force. The great fault is the dampness of these dwellings, both new and old, and it is lamentable to see new houses even now in course of erection on the marshy water-logged land in the Sandfields area, with no attempt made to protect them from the evils of dampness and ground air saturated with moisture. . . . . House accommodation appears to be sufficiently provided for by private enterprise—several new streets of houses have been erected during the last few years, these are fairly substantially built and are separately drained, but much of the old and small house property is dilapidated, damp, with floors below the ground level, and deficient lighting and ventilation. . . . . An application made during the year for a loan of £5,000 to erect 24 houses under the Housing of the Working Classes Act, did not receive the sanction of the Local Government Board."

The Medical Officer of Health for Maesteg writes :—" During the year, 205 new houses were erected and occupied, as compared with 283 in 1904. As in previous years, the majority have been built to accommodate the working class ; at the same time a number of better class houses have been erected throughout the district. There is plenty of open space around the majority of the houses, and the surroundings are kept fairly clean. . . . . The Inspector and myself have made periodical visits to all the worst houses in the district, and have reported on their structural and sanitary condition ; as the outcome of this many houses have been repaired and altered, so as to render them more fit for habitation. 106—108, Bethania Street, I reported upon as being totally unfit for human habitation and an order was obtained for their closure. In October, after inspecting 67, 68 and 69, Commercial Street, I also reported that these houses were quite unfit for human habitation in their present condition, and they were closed forthwith ; so that six houses were closed in 1905, as compared with none the previous year."

The Medical Officer of Health for Merthyr Borough writes :—" . . . . . During the year, 57 houses were represented as unfit for human habitation under Part 2 of the Housing of the Working Classes Act, and of this number 17 have been closed, while the majority of the remainder have now been rendered fit for habitation. . . . . Turning now to the subject of house building under Part 3 of the Housing of the Working Classes Act : during the year no new houses were built, but at a recent meeting of the Housing of the Working Classes Committee of the Council, it was determined to recommend to the Council that they proceed to build 30 houses at Penvern, Dowlais, as soon as terms could be made with the land-owner. These houses were to be of two classes, one class to cost about £170, and the other at such a price as to let at as low a rent as possible. Owing to the stringency of Building Bye-laws, this latter class of house cannot be built at less than £130, if at that. It is to be hoped that the arrangements made for the loan will allow the latter class of houses to be built at a cost so as to let at something like fifteen shillings per month, as, in my opinion, there is a great demand for such houses in the district, while the supply is extremely limited. . . . . The 100 houses previously built in Penydarren were in full occupation during the year at a rental of 22s. 6d. per month. At a recent meeting of the Council it was resolved, in accordance with a recommendation from the Housing of the Working Classes Committee, to reduce the rents to £1 1s. 0d. per month, and a caretaker, whose duties also included attending to repairs and rent collecting, was appointed. By these means it was hoped to lessen or do away with the deficit of £96 that existed at the end of the year. I cannot help thinking that too much is being made of this deficit ; if the houses can be made self-supporting, so much the better, but if there is only a comparatively small deficit, as at the end of this year, I still think the ratepayers have a good bargain. . . . ."

The Medical Officer of Health for Mountain Ash writes :—" *House to House Inspection.*—This is carried on throughout the district. In some cases it was found necessary to notify owners and occupiers to remedy structural defects. There are still many cases of over-crowding."

The Medical Officer of Health for Neath writes :—" . . . . . A goodly number of houses suitable to the wants of the better paid artisans has been erected during the year, consequently there is not amongst this class the overcrowding which was so prevalent a year or two ago as to be little short of a scandal. . . . . A very pleasing feature of recent times is the greatly-increased tendency on the part of the working man to own the house in which he dwells. This should be encouraged by every possible means. It is to be hoped that builders may now turn their attention to the erection of cheaper houses suited to the means of those whose earnings are upon a lower scale, and the example which has been set by the Corporation in proceeding with the erection of an instalment of the proposed 100 houses for this class is one that it is to be hoped may be copied by private individuals. . . . . "

The Medical Officer of Health for Ogmore and Garw writes :—" 108 new houses were erected and occupied during the year. Of this number, 51 were in the Ogmore Ward, and 57 in the Garw Ward. Many of these houses, which were provided with bath-rooms, make them far more suitable for miners to live in. Cases of overcrowding are not nearly so numerous as they were in the district, and with the better class of houses which are now being built I believe there will be a material benefit in the health of the district."

The Medical Officer of Health for Pontypridd writes :—" Building operations proceeded apace during the year throughout the District, some 192 new buildings in all having become inhabited."

#### THE SANITARY CONTROL OF SCHOOLS AND THE MEDICAL EXAMINATION OF SCHOOL CHILDREN.

I have already reported (1903) at some length on the Sanitary Control of Schools, and as I think it is desirable to deal in detail with the medical examinations of School Children, I propose to make it the subject of a special report at an early date.

#### RAINFALL.

The Rainfall is closely connected with the surface features, and the contour of the ground determines in a remarkable manner its relative amount in any given locality in the County, and it is found to be very different in amount, even at points only a few miles apart. The following measurements at different elevations are given in the various Reports, and in the order of the elevations at which they were taken, beginning at the lowest.

#### BARRY.

Taken at Biglis Pumping Station.

Elevation, 20 feet.

Diameter of Funnel, 5 inches.

MONTH.	Total Depth in inches.	Greatest Fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	1·00	0·24	16th	13
February .. .. .	0·93	0·39	26th	15
March .. .. .	4·65	0·79	10th	23
April .. .. .	2·19	0·46	10th	20
May <sup>1</sup> .. .. .	0·13	0·09	1st	2
June .. .. .	3·47	1·00	30th	15
July .. .. .	1·70	0·99	1st	13
August .. .. .	3·32	0·31	2nd	19
September .. .. .	1·41	0·43	9th	12
October .. .. .	1·91	0·53	31st	9
November .. .. .	3·68	0·71	30th	22
December .. .. .	1·96	0·56	7th	14
Total .. .. .	26·35			177

The following is the Rainfall at Biglis for the past 17 years—stated in inches :—

MONTH.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
January ..	1·03	2·96	2·47	2·34	1·76	2·28	3·32	0·84	1·55	0·89	4·25	5·02	1·78	2·19	4·54	4·07	1·00
February ..	2·12	0·41	0·47	2·69	4·59	3·33	0·12	0·50	4·37	1·35	3·05	5·41	0·86	0·90	1·93	4·66	0·93
March ..	2·93	1·48	2·13	0·99	0·54	2·70	3·26	3·59	2·95	1·35	0·74	0·89	1·57	2·12	4·23	2·51	4·65
April ..	3·61	2·15	1·37	2·83	0·13	1·47	1·74	0·58	3·16	1·05	3·54	1·44	3·56	1·83	2·55	1·24	2·19
May ..	0·05	1·79	3·24	1·25	2·10	1·64	Nil.	0·18	0·83	2·60	1·78	1·29	0·59	2·78	2·53	2·65	0·13
June ..	0·50	2·69	1·55	1·73	0·56	2·52	1·27	2·04	2·60	1·12	0·93	1·74	2·72	2·70	2·79	0·67	3·47
July ..	2·66	3·45	2·67	1·98	4·76	4·04	4·35	1·39	1·24	0·70	2·83	1·01	2·28	2·00	4·73	4·61	1·70
August ..	3·66	3·19	7·47	3·87	2·09	5·33	3·79	3·33	6·48	3·40	1·77	3·18	2·86	3·28	5·18	3·16	3·32
September ..	1·96	1·12	3·26	3·86	2·47	2·57	0·80	7·29	4·80	2·35	2·55	0·82	3·01	2·91	2·80	2·87	1·41
October ..	2·96	1·97	5·75	2·31	5·74	4·40	4·71	3·89	1·27	5·46	2·83	5·53	2·96	3·00	8·96	2·08	1·91
November ..	1·91	3·85	4·34	2·52	2·08	4·70	3·39	0·68	1·53	3·47	2·19	5·03	0·89	3·89	2·49	3·11	3·68
December ..	3·09	1·36	6·54	3·10	3·08	3·87	3·72	4·90	4·44	3·02	2·55	5·29	5·63	3·23	3·36	2·66	1·96
Total ..	26·48	26·42	41·26	29·47	29·90	38·85	30·47	29·21	35·22	26·76	29·01	36·65	28·71	30·83	46·09	34·29	26·35

Average fall for 17 years—30·97 inches.

#### OYSTERMOUTH.

Taken at Newton.

Elevation, 280 feet.

Diameter of funnel, 5 inches.

MONTH.	Total Depth in inches.	Greatest Fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. ..	1·94	0·57	8th	16
February .. ..	1·59	0·36	25th	21
March .. ..	6·39	1·32	10th	23
April .. ..	3·35	0·46	10th	21
May .. ..	0·46	0·15	1st	6
June .. ..	2·82	0·96	30th	15
July .. ..	2·44	0·67	1st	14
August .. ..	5·87	1·17	22nd	20
September .. ..	1·99	0·67	8th	13
October .. ..	2·30	0·57	31st	14
November .. ..	4·18	0·84	12th	23
December .. ..	2·30	0·90	7th	14
Total .. ..	35·63			200



## LLANGYFELACH.

Taken at Glanravan, Morriston. Elevation 53·2 feet. Diameter of funnel, 5 inches.

MONTHS.	Total Depths in inches.	Greatest Fall in 24 Hours.		No. of Day on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	1·89	0·51	8th	12
February .. .. .	1·74	0·40	25th	19
March .. .. .	7·14	1·33	10th	22
April .. .. .	3·88	0·48	13th	20
May .. .. .	0·37	0·13	1st	6
June .. .. .	3·03	0·82	30th	15
July .. .. .	2·13	0·91	1st	13
August .. .. .	6·73	6·01	27th	23
September .. .. .	1·75	0·52	8th	12
October .. .. .	2·70	0·60	31st	11
November .. .. .	4·77	0·98	10th	15
December .. .. .	1·97	0·70	7th	9
Total .. .. .	38·10			177

Average for 14 years, 45·78 inches.

## LLANDILO-TALYBONT.

Taken at Penllergaer. Elevation, 240 feet. Diameter of funnel, 5 inches.

MONTH.	Total Depth in inches.	Greatest Fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	1·99	0·54	8th	14
February .. .. .	1·93	0·40	25th	19
March .. .. .	6·74	1·11	10th	24
April .. .. .	4·74	0·74	13th	22
May .. .. .	0·60	0·20	1st	6
June .. .. .	3·19	0·95	30th	13
July .. .. .	2·73	1·30	1st	13
August .. .. .	6·90	1·07	22nd	23
September .. .. .	2·11	0·51	8th	12
October .. .. .	2·69	0·68	31st	14
November .. .. .	5·39	1·02	10th	23
December .. .. .	2·04	0·67	7th	14
Total .. .. .	41·05			197

Average annual rainfall at Penllergaer, 1894-1904—47·01 ins.

Greatest „ „ „ „ 61·84 ins. in 1903.

Least „ „ „ „ 39·27 ins. in 1902.



## EAST PONTARDAWE.

Taken at Ystalyfera.

Elevation, 240 feet.

Diameter of funnel, 5 inches.

MONTH.	Total Depth in inches.	Greatest Fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	2·53	0·56	8th	16
February .. .. .	2·99	0·95	25th	20
March .. .. .	9·23	1·58	10th	22
April .. .. .	6·13	1·03	30th	21
May .. .. .	0·69	0·17	31st	6
June .. .. .	4·26	0·99	20th	15
July .. .. .	2·74	0·82	1st	16
August .. .. .	8·58	1·26	4th	21
September .. .. .	2·85	0·69	8th	11
October .. .. .	3·67	0·84	30th	14
November .. .. .	5·79	1·01	22nd	19
December .. .. .	2·56	0·80	7th	11
Total .. .. .	52·02			192

## PONTYPRIDD.

Taken at Macs-y-dderwen.

Elevation, 425 feet.

Diameter of funnel, 5 inches.

MONTH.	Total Depth in inches.	Greatest fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	1·02	0·58	12th	8
February .. .. .	1·44	0·35	26th	12
March .. .. .	7·45	1·34	8th	20
April .. .. .	3·99	0·63	28th	19
May .. .. .	0·29	0·16	31st	4
June .. .. .	5·59	1·02	20th	19
July .. .. .	1·56	1·02	1st	8
August .. .. .	6·31	1·04	4th	19
September .. .. .	3·75	1·05	8th	10
October .. .. .	2·96	0·61	29th	9
November .. .. .	6·01	1·25	10th	18
December .. .. .	2·35	0·60	4th	13
Total .. .. .	42·72			159

## TREHERBERT, RHONDDA.

Taken at Tynywaun Waterworks. Elevation, 801 Feet. Diameter of funnel, 5 inches.

MONTH.	Total Depth in inches.	Greatest fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	3·90	0·75	8th	16
February .. .. .	4·16	1·12	25th	19
March .. .. .	11·92	2·21	10th	23
April .. .. .	8·26	1·20	30th	26
May .. .. .	0·48	0·34	1st	5
June .. .. .	9·15	1·62	20th	18
July .. .. .	2·58	1·12	1st	16
August .. .. .	10·61	2·38	4th	23
September .. .. .	4·93	1·15	9th	16
October .. .. .	4·16	0·80	29th	14
November .. .. .	7·03	1·31	10th	21
December .. .. .	3·53	1·03	7th	14
Total .. .	70·71	2·38		211

## MERTHYR—PENTWYN RESERVOIR.

Elevation, 1,120 feet above sea level.

MONTH.	Total Depth in inches.	Greatest Fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	2·21	0·49	4th	18
February .. .. .	3·06	0·67	25th	21
March .. .. .	9·27	1·62	10th	25
April .. .. .	7·15	1·32	30th	25
May .. .. .	0·43	0·23	1st	5
June .. .. .	4·29	1·03	30th	18
July .. .. .	1·88	0·62	1st	16
August .. .. .	7·46	2·17	4th	22
September .. .. .	3·59	1·26	8th	17
October .. .. .	3·79	0·71	29th	15
November .. .. .	6·30	0·94	22nd	24
December .. .. .	2·58	0·63	6th	18
Total .. .	52·01			22·4

## MERTHYR—LOWER NEUADD RESERVOIR.

Elevation, 1,462 feet.

MONTH.	Total Depth in inches.	Greatest Fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	2·73	0·74	8th	15
February .. .. .	2·67	0·40	25th	19
March .. .. .	10·11	1·94	10th	26
April .. .. .	7·52	0·94	30th	25
May .. .. .	0·67	0·17	1st	8
June .. .. .	5·41	1·18	19th	19
July .. .. .	2·17	1·13	1st	14
August .. .. .	7·99	1·50	4th	22
September .. .. .	3·38	0·91	8th	16
October .. .. .	4·66	0·78	31st	15
November .. .. .	6·79	1·12	10th	23
December .. .. .	2·63	0·71	6th	19
Total .. .. .	56·83			221

## RHONDDA—MAERDY.

Elevation, 1,255 feet.

MONTH.	Total Depths in inches.	Greatest Fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	2·03	0·45	26th	6
February .. .. .	2·27	0·41	3rd	9
March .. .. .	7·85	1·42	10th	19
April .. .. .	5·88	0·73	28th	20
May .. .. .	0·39	0·34	1st	2
June .. .. .	5·78	1·02	20th	11
July .. .. .	2·24	0·65	1st	10
August .. .. .	9·77	2·43	4th	19
September .. .. .	4·03	1·19	7th	8
October .. .. .	3·46	0·84	29th	7
November .. .. .	7·16	1·12	22nd	12
December .. .. .	2·64	1·02	7th	6
Total .. .. .	53·50	2·43		129

## RHONDDA—THE HOSPITAL, YSTRAD.

Elevation, 590 feet.

MONTH.	Total Depth in inches.	Greatest Fall in 24 hours.		No. of Days on which 0·01 inches or more fell.
		Depth.	Date.	
January .. .. .	2·26	0·37	8th	15
February .. .. .	1·78	0·40	25th	12
March .. .. .	11·09	1·97	10th	22
April .. .. .	5·22	0·78	28th	20
May .. .. .	0·26	0·14	31st	2
June .. .. .	5·99	1·51	19th	16
July .. .. .	1·93	0·65	1st	11
August .. .. .	8·23	1·71	4th	17
September .. .. .	4·89	1·60	8th	12
October .. .. .	4·34	1·12	30th	13
November .. .. .	6·76	1·18	22nd	19
December .. .. .	2·87	0·79	6th	12
Total .. .. .	55·62			171

## MARGAM.

Summary of Rainfall during the year.

	inches.
January .. .. .	1·01
February .. .. .	1·19
March .. .. .	4·84
April .. .. .	2·78
May .. .. .	0·40
June .. .. .	1·16
July .. .. .	3·55
August .. .. .	4·62
September .. .. .	2·07
October .. .. .	1·77
November .. .. .	4·86
December .. .. .	2·95
	—
	31·20



The heaviest rainfall took place on March 9th, when 1·11 inches fell. There were 211 days on which no rain fell.

A rainfall of 31·20 is equal to slightly over 3,120 tons to the acre.

MONTH.	LLANISHEN RESERVOIR.			Ely.
	At Llanishen Reservoir, Elevation 155 feet.	At Lisvane Reservoir, Elevation 150 feet.	At The "Heath" Filters, Elevation 132 feet.	At Ely Pumping Station.
January .. .. .	1·07	0·92	1·46	1·64
February .. .. .	1·01	0·84	1·29	1·17
March .. .. .	5·53	5·40	5·96	5·99
April .. .. .	2·95	2·68	2·90	2·72
May .. .. .	0·14	0·08	0·19	0·13
June .. .. .	4·15	3·78	3·76	4·12
July .. .. .	1·11	1·07	0·91	1·69
August .. .. .	4·32	4·22	4·14	4·33
September .. .. .	1·68	1·46	1·82	1·88
October .. .. .	2·21	2·17	2·32	2·76
November .. .. .	4·00	3·91	3·83	4·22
December .. .. .	2·00	1·82	2·05	2·19
Totals .. .. .	30·17	28·35	30·63	32·84

# METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1905.

Recorded by MR. E. W. WAITE, A.M.I.C.E., at his residence, Canon Street, Barry.

MONTH.	BAROMETER.				THERMOMETER.										EARTH THERMOMETER.		HYGROMETER.		Rain-fall. Inches.
	Highest.		Lowest.		Mean of Month.	Maximum.		Minimum.		Mean of Max.	Mean of Min.	Mean of Mean.	No. of Days at 32° or below.	1 ft. deep Mean.	4 ft. deep Mean.	Mean of Dry Bulb.	Mean of Wet Bulb.		
	Date.	Inch.	Date.	Inch.	Inch.	Date.	Degs.	Date.	Degs.	Degs.	Degs.	Degs.	Degs.	Degs.	Degs.	Degs.	Degs.		
January	27th	30.80	17th	29.10	30.15	3rd	52.0	17th	30.0	44.16	36.93	40.74	6	38.36	26.83	41.25	38.83	1.00	
February	13th	30.40	26th	29.10	30.05	7th	52.0	20th	30.0	47.53	40.10	43.73	2	40.00	25.89	43.05	41.78	0.93	
March	3rd	30.10	15th	28.70	29.58	22nd	62.0	3rd	34.0	51.64	41.48	46.56	0	41.70	26.25	46.06	44.06	4.65	
April	1st	30.10	30th	29.20	29.71	29th	60.0	8th	36.0	53.10	43.96	48.51	0	47.43	28.66	48.83	46.46	2.19	
May	9th	30.30	1st	29.20	29.99	28th	71.0	22nd	39.0	62.09	46.48	54.29	0	52.51	31.51	54.09	49.93	0.13	
June	22nd	30.20	17th	29.60	29.83	23rd	80.0	9th	46.0	67.33	54.73	61.03	0	58.30	35.73	61.26	57.13	3.47	
July	3rd	30.10	1st	29.70	29.96	9th	70.0	7th	52.0	71.16	59.16	65.16	0	65.41	40.38	65.25	60.90	1.70	
August	12th	30.10	3rd	29.20	29.72	16th	79.0	31st	51.0	67.32	55.35	61.38	0	63.06	41.58	61.87	57.58	3.32	
September	1st	30.20	7th	29.40	29.86	5th	68.0	15th	46.0	62.10	51.83	56.96	0	58.10	42.00	56.73	53.70	1.41	
October	9th	30.30	29th	29.10	29.92	9th	64.0	25th	35.0	54.32	43.77	49.08	0	48.25	42.00	48.38	45.77	1.91	
November	18th	30.00	1st	29.00	29.56	11th	54.0	20th	31.0	48.16	39.46	44.83	5	42.23	42.00	43.26	41.80	3.68	
December	12th	30.70	28th	29.20	30.03	7th	53.0	31st	36.0	47.35	40.77	44.06	0	42.25	42.09	44.54	43.00	1.96	

## BRIDGEND.

## METEOROLOGICAL OBSERVATIONS, 1905.

MONTH.	BAROMETER.			THERMOMETER.						HYGROMETER.			
	Highest. Date. Inches.	Lowest. Date. Inches.	Mean of Month. Inches	Highest Maximum.		Lowest Minimum.	Mean of Max.	Mean of Min.	Mean of Mean.	No. of Days below 32°.	Mean of Dry Bulb. Degrees.	Mean of Wet Bulb. Degrees.	Rainfall. Inches.
				Date.	Degs.								
January	.. 28th 30.99	17th 29.22	30.27	5th; 7th and 25th 51.5	27th 21.5	44.1	34.2	39.15	12	..	..	1.27	
February	..		No readings.									3.27	
March	.. 3rd 30.31	15th 28.79	29.70	22nd 62.5	4th 29.5	53.0	38.9	45.95	2	47.7	45.6	5.97	
April	.. 1st 30.30	30th 29.20	29.82	14th and 15th 60.0	15th 29.0	54.2	40.8	50.40	1	49.3	48.4	3.01	
May	.. 5th 30.44	1st 29.29	30.14	14th 76.5	10th 30.0	63.6	40.3	51.95	2	56.0	50.8	0.26	
June	.. 22nd 30.41	29th 29.68	29.93	26th 80.0	14th 40.0	69.9	55.5	62.70	0	62.2	58.6	2.65	
July	.. 19th 30.30	1st 29.85	30.09	9th 79.0	7th 44.5	71.3	54.5	62.90	0	66.1	62.3	2.59	
August	.. 12th 30.35	4th 29.32	29.87	12th 79.0	21st 42.0	68.9	52.6	60.75	0	66.0	60.3	4.10	
September	.. 29th 30.85	7th 29.53	30.04	6th 68.0	26th 36.5	62.5	47.4	54.95	0	53.1	50.6	2.75	
October	.. 11th 30.53	3rd 29.19	30.07	10th 63.0	5th 23.0	54.6	37.0	45.80	9	45.9	47.8	2.23	
November	.. 21st 30.18	13th 29.02	29.67	5th, 12th and 26th 53.0	20th 20.0	48.5	34.6	42.55	11	41.2	39.8	4.79	
December	.. 12th 30.86	29th 29.36	30.21	7th 53.0	10th 28.0	46.8	35.8	41.3	6	42.0	40.9	2.98	

## PART II.

### URBAN DISTRICTS.

#### ABERAVON (Borough).

Medical Officer of Health—J. ARNALLT JONES, M.D., D.P.H.

Area in acres, 2,060.

	1891.	1901.	1905.
Population .. ..	6,281	7,553	7,871 (estimated).

Birth-rate, 39·0.	Death-rate, 15·1.	Zymotic death-rate, 0·63.	Infant mortality-rate, 162
	Phthisis death-rate, 0·76.	Respiratory diseases death-rate, 2·54.	

#### INFECTIOUS DISEASES.

During the year 39 cases of Infectious Diseases were notified, as compared with 134 in 1904. These included *Diphtheria and Membranous Croup* (10 cases, 1 death) ; *Erysipelas* (6 cases) ; *Scarlet Fever* (21 cases) ; and *Puerperal Fever* (2 cases).

*Scarlatina* was present in the town during the first half of the year—the last cases were met with in July. This disease has been in the Borough for several years. There were no deaths during 1905. Most of the cases occurred in the Sandfields District.

*Diphtheria and Membranous Croup*.—The number of cases of *Diphtheria* is less than in previous years, and the use of antitoxin in the treatment of this disease has exercised a pronounced influence in diminishing the mortality from this affection.

No cases of *Small Pox* or *Enteric Fever* were notified.

*Measles*.—One death was attributed to this disease.

#### GENERAL CONDITIONS.

*Water Supply*.—A constant supply of water was provided up to May 19, when it had to be made intermittent and kept so till September 10th. During the period of intermittent service, the auxiliary supply from Margam was turned on, 11,256,000 gallons being supplied ; this, during the day, mainly served the lower portion of the town, but during the night it served the whole town. Recently a 6-inch main pipe has been laid down in Station Road, and it is hoped that the pressure in future will be improved. A sample of water from a well in Ford Row, Velindre, was submitted for analysis at the County Laboratory, and the results indicated contamination. This well was subsequently closed.

*Factories and Workshops, &c.*—37 inspections of factories, &c. and 61 of workshops were made during the year, and two notices were served and complied with.



*Housing of the Working Classes.*—A Local Government Board inquiry was held at which it was stated that there are 1,555 houses in the district, and of this number some 130 are considered undesirable, 40 of which are very unsatisfactory. Quite 35% of the working men's houses in the Borough are old ones, many built some 50 or 100 years ago. The great fault is said to be the dampness of these dwellings, both new and old, and houses are even now in course of erection on the marshy water-logged land in the Sandfields area with no attempt at protection from ground air saturated with moisture.

*Scavenging.*—A daily collection of house refuse takes place in the centre of the town and in the outskirts at regular intervals.

*Sewerage and Drainage.*—The greater portion of the Borough is sewered and drained, and the sewers are regularly flushed. The only unsewered part of the Borough is Velindre.

*Slaughter-house.*—The Medical Officer of Health observes :—"The Public Slaughter-house is discreditable to the town—in the same compound are stables, and the condition under which the Corporation horses are housed do not commend themselves to persons with a tender feeling for animals."

## IMPROVEMENTS.

### *Works Completed.*

Street and Water Improvements, £150.

Private Street Works—Arthur and Bevan Streets—£130.

### *Works Contemplated.*

Repair of damaged Esplanade, about £3,000.

Extension and improvement of Slaughter-house, £1,200.

Corporation Stables, £300.

Steel Footbridge over Great Western Railway, £700.

Private Street Works, £725.

A New Cemetery.

Drainage of Moors.

## REQUIREMENTS.

A sufficient supply of Pure Water.

Sewerage of Velindre.

Mortuary.

Steam Disinfecting Apparatus.

**ABERDARE.**

Medical Officer of Health—DAVID DAVIES, F.R.C.S.

Area in acres, 15,127.			
		1891.	1901.
		1905.	
Population	.. ..	40,917	43,357 .. 48,000 (estimated).
Birth-rate, 34.05.	Death-rate, 18.32	Zymotic death-rate, 2.89.	Infant mortality-rate, 198.1
	Phthisis death-rate, 0.43.	Respiratory diseases death-rate, 3.72.	

**INFECTIOUS DISEASES.**

1,172 cases were notified, as compared with 973 in 1904. These included *Diphtheria and Membranous Croup* (120 cases, 14 deaths); *Erysipelas* (94 cases, 1 death); *Scarlet Fever* (926 cases, 28 deaths); *Enteric Fever* (22 cases, 4 deaths); and *Puerperal Fever* (4 cases, 4 deaths).

30 deaths occurred from *Diarrhœa*, 13 from *Whooping Cough*, 50 from *Measles*, 21 from *Phthisis*, and 4 from *Influenza*.

During the year all the workshops, workplaces and bakehouses within the district were regularly inspected and all sanitary defects remedied, without having cause to bring them before the Council.

**IMPROVEMENTS.**

These are not specified (see Quarterly Reports).

**REQUIREMENTS.**

These are not specified (see Quarterly Reports).

**BARRY.**

Medical Officer of Health—GEORGE NEALE, L.R.C.P.

Area in acres 4,104.			
		1891.	1901.
		1905.	
Population	.. ..	12,665	27,030 .. 30,001 (estimated).
Birth-rate, 31.4.	Death-rate, 12.7.	Zymotic death-rate, 0.9.	Infant mortality-rate, 115.
	Phthisis death-rate, 1.56.	Respiratory diseases death-rate, 2.43.	

**INFECTIOUS DISEASES.**

349 cases were notified as compared with 219 in 1904, being an increase of 130. These included *Small Pox* (5 cases, no death); *Diphtheria and Membranous Croup* (96 cases, 8 deaths); *Scarlet Fever* (192 cases, 4 deaths); *Enteric Fever* (10 cases, 3 deaths); *Erysipelas* (44 cases, 1 death); *Puerperal Fever* (1 case, 1 death); and *Continued Fever* (1 case, 1 death).

7 deaths occurred from *Whooping Cough* and 8 from *Diarrhœa*. No deaths occurred from *Measles* during the year.

*Small Pox.*—5 cases occurred, two being residents and three seamen. The cases were removed to the Sanatorium, their clothing and bedding were destroyed and every precaution taken against the spread of the disease.

For several years past the Sanatorium has been used for Small Pox Patients only, but now the Council is building a permanent Small Pox Hospital, about a mile from the present Sanatorium, and with no houses in the near vicinity. This will be completed and ready for use by the end of 1906.

*Scarlet Fever.*—192 cases were notified during the year, the disease being prevalent throughout the district. Most of the cases were of a mild type. Four fatal cases occurred, one being under one year, two under five, and one under ten years.

*Diphtheria.*—95 cases occurred during the year, the majority of which occurred in the first three months. The disease was not of a severe nature, only 8 cases proving fatal. The Park and High Street Wards were principally affected.

*Typhoid Fever.*—Of the 10 cases notified four were imported, one being a sailor, and the other three had visited localities where the disease existed. Three cases proved fatal.

*Diarrhœa.*—Throughout the year very few cases of this disease occurred ; 8 cases proved fatal.

#### GENERAL CONDITIONS.

*Removal and Disposal of House Refuse.*—A daily collection of the town refuse is carried out, the refuse being conveyed to a destructor ; 4,611 tons 14 cwts. of refuse were cremated during the year.

*Water Supply.*—The water supplied within the Urban District is derived from wells sunk and head-ings driven into the carboniferous limestone formation on land within the parish of St. Andrews Major. The water is a hard one, varying from 35 to 40 degrees, of which 11 to 15 degrees are permanent.

*Sewerage and Drainage.*—The sewers are constructed in parts of bricks, and are egg-shaped ; others are of iron and stoneware. A large number of 6-inch pipe ventilators have been provided throughout the district. The whole of the sewage is discharged into the sea, below low water mark.

*Schools.*—Frequent inspections of the schools were carried out during the year by the Medical Officer of Health and Sanitary Inspectors, and several improvements effected. The Clive Road, Holton Road, Hannah Street, Cadoxton, and Palmerston Road Schools were disinfected with formalin, &c., owing to the prevalence of infectious disease amongst the children attending these schools.

*Dairies, Cowsheds and Milkshops.*—The number registered is 96. 12 new applications for registration were received, and in each case the premises were inspected and compliance with the requirements of the Orders insisted upon.

*Bakehouses.*—These, numbering 36, were carefully inspected, and the majority were found in a good sanitary condition. Limewashing was required, and done, in four cases. No underground bakehouses exist in the town, and, with the exception of two or three, all are of modern construction, with the required cubic capacity, good light and ventilation.

*Common Lodging Houses.*—The number of these in the district are five. These were frequently inspected both by day and night, and the bye-laws strictly enforced.

*The Public Abattoir* was visited daily, and found clean, and kept in accordance with the bye-laws. 12,294 animals were slaughtered, and in no instance was any animal found to be diseased or unfit for human consumption.

*Mortuary*.—The public mortuary situated at the rear of Court road has been of great convenience during the year. A large number of bodies have been taken there to await inquests and burials.

### IMPROVEMENTS.

Private Streets and Lanes, 604 lineal yards.

Public Road Widenings, 923 lineal yards.

Sewers and Drains constructed, 1,557 lineal yards.

Paving of Public Highways, 1,085 superficial yards.

Barry Road and Colcot Road Widenings and sewers and drains for the same.

Small Pox Hospital (in course of construction).

### REQUIREMENTS.

(Not stated.)

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### BRIDGEND.

Medical Officer of Health—WYNDHAM RANDALL, M.R.C.S., L.R.C.P.

Area in acres, 700.

	1891.	1901.	1906.
Population .. ..	4,896	6,066	7,085 (estimated.)
Birth-rate, 29·50.	Death-rate, 15·95.	Zymotic death-rate, 3·10.	Infant mortality-rate, 114·83.
Phthisis death-rate, 1·83.		Respiratory diseases death-rate, 1·69.	

### INFECTIOUS DISEASES.

136 cases were notified as compared with 48 in 1904. These included *Diphtheria* (3 cases) ; *Scarlet Fever* (8 cases) ; *Enteric Fever* (117 cases, 16 deaths) ; *Erysipelas* (8 cases, 1 death) ; .

No deaths occurred from *Scarlet Fever* or *Diphtheria*.

*Enteric Fever*.—16 deaths occurred from this disease as compared with three in 1904. The incidence and distribution of cases were closely similar to the preceding years.

One death is attributed to *Diarrhœa*, 3 to *Whooping Cough*, and 2 to *Influenza*.

The death-rate “corrected” by deducting the deaths at the Workhouse of non-residents, and adding the deaths at the County Asylum of residents, equals 15·95.

The total number of deaths from the seven principal Zymotic Diseases amounted to 22.

### GENERAL CONDITIONS.

*Water Supply*.—The construction of a storage reservoir and filter beds on the Ogmores Downs has been completed. The capacity of this reservoir is 1,250,000 gallons ; the whole of the work is being constructed in cement concrete, and additional pumping plant of modern description is being provided. The water supply, as usual, is plentiful.



*Slaughter-houses.*—Dr. Bulstrode holds that “the accommodation afforded by the slaughter-house is far from satisfactory, and some of the butchers complained on the subject, at the same time expressing a wish that a public abattoir, properly administered, should be provided.”

*Common Lodging Houses.*—There is only one of these—in Newcastle—the one in the Rhiw, Old-castle, having been closed.

*Sewerage.*—The sewerage scheme is now completed, and the whole of the house drains connected thereto.

*Factories, Workshops and Bakehouses* have been inspected, reported upon, and improvements effected.

An additional Sanitary Inspector was appointed in July, and the Medical Officer of Health states :—  
“The paramount necessity for his appointment is shown by the figures of his report. Out of the first 111 houses inspected, 110 notices were served to repair defective drains, and up to the end of the year 224 notices were served out of 241 houses inspected.”

#### IMPROVEMENTS.

260 feet of 9-inch Relief Sewer constructed at Rhiw.

270 feet of 12-inch Storm Water Sewer constructed at Coity Fields.

#### REQUIREMENTS.

The re-appointment of the additional Sanitary Inspector.

The closing or the repair of certain dwellings named.

Covered iron receptacles for the removal of, and an Incinerator for the destruction of infected excreta.

The opening of the Isolation Hospital for the reception of patients.

#### BRITON FERRY,

Medical Officer of Health—E. VERNON PEGGE, M.R.C.S., L.R.C.P.

Area in acres, 1,381.

		1891.		1901.		1905.
Population	.. ..	5,779	.. ..	6,961	.. ..	7,000 (estimated).

Birth-rate, 35·7.      Death-rate, 14·5.      Zymotic death-rate, 1·8.      Infant mortality-rate, 1·40.  
Respiratory diseases death-rate, 2·14.      Phthisis death-rate, 1·28.

## INFECTIOUS DISEASES.

149 cases were notified as against 60 cases during the previous year. These included *Diphtheria* (18 cases, 1 death); *Erysipelas* (2 cases); *Scarlet Fever* (126 cases, 4 deaths); and *Puerperal Fever* (3 cases).

6 deaths occurred from *Whooping Cough* and 2 from *Enteritis*.

No deaths are ascribed to *Measles* or *Diarrhœa*.

During the year a rather severe epidemic of *Scarlet Fever* occurred, 126 cases in all were notified, mostly between the months of May and September. *Whooping Cough* was very prevalent during the first six months of the year, and from which 6 deaths took place.

Three cases of *Puerperal Fever* were notified, but none proved fatal.

No cases were removed to the Isolation Hospital.

## GENERAL CONDITIONS.

A large number of dwelling houses have been built during the year.

*The Slaughter-houses* have been frequently inspected, and, as far as possible, have been kept in a sanitary condition, but these places are said to be quite unfit for the purpose. A public abattoir is urgently needed.

*The Dairies and Cowsheds* have been inspected periodically. 20 cow-keepers and purveyors of milk were registered during the year, 8 of which are purveyors only, and 12 are cowkeepers. The cowsheds found well kept, lighted and ventilated.

*Water Supply*.—This has been satisfactory. The supply during the summer months has been well maintained, and the quality better than in former years. The reservoir still remains unprotected.

*Factories, Workshops and Bakehouses*.—These are periodically inspected and found well kept.

## IMPROVEMENTS.

New Sewers laid in Regent Street West, Victoria Road and Ynysmaerdy.

Extension of Water Mains, 140 yards of 3-inch and 100 yards of 4-inch pipes.

800 yards of road along Canal repaired.

Clearing of Main Storm Culverts and Open Storm Brook.

## REQUIREMENTS.

Provision of a new Isolation Hospital.

A Public Slaughter-house.

## CAERPHILLY.

Medical Officer of Health—T. W. THOMAS, M.R.C.S., L.R.C.P.

Area in acres, 17,000.

	1891.	1901.	1905.
Population .. ..	14,000	16,250	21,500 (estimated).
Birth-rate, 41.1.	Death-rate, 18.2.	Zymotic death-rate, 3.29.	Infant mortality-rate, 166.
	Phthisis death-rate, 1.11.	Respiratory diseases death-rate, 3.53.	

## INFECTIOUS DISEASES.

177 cases were notified as compared with 243 during 1904. These included *Small Pox* (3 cases) ; *Diphtheria and Membranous Croup* (69 cases, 5 deaths) ; *Scarlet Fever* (93 cases, 4 deaths) ; *Erysipelas* (6 cases, 2 deaths) ; *Enteric Fever* (4 cases, 1 death) ; and *Puerperal Fever* (2 cases, 2 deaths).

26 deaths occurred from *Whooping Cough* and 14 from *Diarrhœa*.

*Small Pox*.—3 cases were notified, as compared with 15 in 1904. The first case was reported from the Town Ward, and proved to be of a virulent and confluent form. The patient is believed to have contracted the disease from a tramp who accompanied him one day to his work. The patient was at once isolated, and all the contacts who were willing were re-vaccinated, but a lodger who refused to allow himself to be re-vaccinated soon contracted the disease. The improvements effected at the Small Pox Hospital some months previously were found most useful. Infected clothing and bedding were destroyed and compensation allowed.

The Medical Officer of Health writes :—" Some means will have to be adopted in connection with the public works carried on in the various parts of the country to see that the men employed are protected from Small Pox, for the expenses incurred in dealing with these outbreaks are enormous, and it is really scandalous that districts are infected by the tramp class with such a horribly loathsome disease as Small Pox, when it can be really stamped out by re-vaccination. This is the fourth year in succession we have had to contend with the disease as an importation by tramps of the labouring class."

*Scarlet Fever* was the most prevalent of the infectious diseases. The districts chiefly infected were Ystradmynach, Aber, and the Town Wards. More than one case was found to occur in the same family, but out of the 93 cases only 4 deaths resulted.

*Diphtheria and Membranous Croup*.—69 cases were notified, and only 5 deaths resulted. The Medical Officer of Health observes :—" In spite of the argument that may be urged with regard to the latter that many cases were of a doubtful nature, still there were several undoubtedly of a severe type, and whether the small number of deaths may be due to the more systematic use of antitoxin, I do not know, but speaking personally, I would unhesitatingly state that this form of treatment proved successful in cases which seemed almost beyond human aid. The inefficient ventilation of drains and the too frequent absence of intercepting traps, had, together with other defects in the drains, a good deal to do with the causation of this disease."

*Enteric Fever.*—Only 4 cases were notified during the year. The first case occurred at Ystradmynach, and it is believed that the person was affected when he came to the district; this case proved fatal. The second case was in the Aber Ward, the cause of which was not discovered. The two other cases were in the Town Ward, and the drains on testing were found in a very bad state.

The Medical Officer of Health recommends the strict observance of the bye-laws, and that no new drains should be covered in before they have been properly tested, and in the event of drains becoming choked, only competent persons be allowed to tamper with them. A printed slip should be attached to all “ notices to abate nuisances ” that the drain or drains should not be covered in until properly tested.

### GENERAL CONDITIONS.

The *Water Supply* is said to be on the whole plentiful, but it was often turned off to augment the supply. The *quality* on more than one occasion was stated as *not satisfactory*. The *unfenced* condition of the Watford Reservoir is adversely commented upon. It was deemed necessary to distribute printed leaflets advising the boiling of water before use, after the results of one analysis in the summer time.

*Slaughter-houses.*—The various slaughter-houses are said to be unfit for the purpose, and the erection of public ones in the various Wards is urgently required.

*Scavenging* is carried out satisfactorily, but the need of a destructor is again emphasized, as it is a difficult matter to obtain depôts for depositing the refuse.

*Isolation Hospital.*—Plans have been completed and a site secured, but nothing further has been done towards the erection of this hospital.

*Mortuary.*—A public mortuary in the Town of Caerphilly near the Police Station would be a great boon to the district.

*Bakehouses.*—All these—some 33 in number—have been frequently inspected and invariably found clean, and on the whole well ventilated.

### IMPROVEMENTS.

The laying out of the Park. Cost £700.

Kerbing, Metalling and Channelling in Ystradmynach Ward.

Completion of Private Street Works Improvements in Taff's Well Ward.

A Public Convenience at Senghenydd.

### REQUIREMENTS.

Public Abattoirs.

Provision of a Mortuary and Disinfecting Chamber.

A system of Sewerage for Nelson.

The extension of the Main trunk Sewer from Llanbradach to Ystradmynach.

A Public Convenience near entrance to the Taff's Well Station.

The provision of the Isolation Hospital.



## COWBRIDGE (Borough).

Medical Officer of Health—R. M. MOYNAN, M.D.

Area in acres, 84.

	1891.	1901.	1906.
Population .. .. .	1,360 ..	1,202	1,202 (estimated).
Birth-rate, 15·8.	Death-rate, 10·8.	Zymotic death-rate, 0·82.	Infant mortality rate, 52·6.
	Phthisis death-rate, Nil.	Respiratory diseases death-rate, 2·4.	

## INFECTIOUS DISEASES.

21 cases were notified. These included *Erysipelas* (6 cases) ; *Scarlet Fever* (14 cases) ; and *Enteric Fever* (1 case). None proved fatal.

## GENERAL CONDITIONS.

*Water Supply*.—The sources are still spring and deep wells. The Medical Officer of Health states :—“ I have nothing further to add to my report of 1904 in this matter, excepting that the analysis of the waters show that they continue of an improved quality and fit for human uses.”

*Drainage*.—There is no drainage system for the district, and so long as there is no public water supply it is not advisable, nor desirable, to have such, as without a free and regular supply of water for flushing purposes, drains, &c., they become a source of danger to the public health.

The *Common Lodging House* is kept in good order, and care is taken to avoid nuisances.

The *Slaughter House*.—This is said to be kept in a better sanitary state than it has been for years. The scheme for the provision of a public abattoir has not yet been approved of.

*Factory and Workshops Act*.—The breweries, bakehouses, tailoring and millinery establishments are said to be in good order, and to comply with the requirements of the Act.

## IMPROVEMENTS.

None.

## REQUIREMENTS.

A supply of wholesome and pure water.

A system of drainage and sewerage for the whole town.

A public slaughter-house.

## GLYNCORWG.

Medical Officer of Health—HENRY DAVIES, M.B., C.M.

Area in acres, 13,926.

	1891.	1900.	1905.
Population .. .. .	3,800	6,500	7,500 (estimated).
Birth-rate, 41·53.	Death-rate, 21·6.	Zymotic death-rate, 4·0.	Infant mortality-rate, 159·2.
Phthisis death-rate, 0·4.      Respiratory diseases death-rate, 3·4.			

## INFECTIOUS DISEASES.

123 cases were notified, as compared with 148 in 1904. These included *Diphtheria* and *Membranous Croup* (21 cases, 2 deaths); *Scarlet Fever* (87 cases, 1 death); *Enteric Fever* (18 cases, 3 deaths); and *Erysipelas* (6 cases).

25 deaths were ascribed to *Measles*, 5 to *Whooping Cough*, 6 to *Diarrhœa*.

The Medical Officer of Health observes :—“ A severe epidemic of Measles broke out in Abergwynfi in November. I recommended closing the Council Schools for three weeks; at the end of that period the disease was still prevalent, and I advised the schools to be further closed. The school buildings were disinfected and re-opened in December. No cases of Measles have appeared since.

## GENERAL CONDITIONS.

*Water Supply*.—The public supply is from Glyncoiwg. As extensive building operations are taking place, the possibility of the supply becoming inadequate is evident, unless provision is made for storage or some other source of supply is provided.

*Sewerage and Drainage*.—Sewerage and sewage disposal are questions of urgent importance. A main trunk sewer to the sea is advocated. The difficulty of satisfactorily draining houses in the absence of a proper system of sewers is indicated.

*Refuse Removal*.—This is regularly done. The tipping sites are too near dwellings, and the Abergwynfi tip is too near the Council's schools.

*Dairies and Cowsheds*.—These were frequently visited by the Medical Officer and Inspector and found clean; but the lighting and ventilation of some of them could be improved.

*Slaughter-houses*.—These are said to be very well kept and clean.

*Bakehouses*.—These were found in a satisfactory state. Certificates were granted to three underground bakehouses.

## IMPROVEMENTS.

None are specified. See Quarterly Reports.

## REQUIREMENTS.

The sewerage of Aber, and Blaengwynfi, Cymmer, and Glyncoiwg.

The provision of an additional water supply.

## MAESTEG

Medical Officer of Health—WALTER KIRKBY, L.R.C.P., L.R.C.S.

Areas in acres, 6,709.

	1891.	1901.	1906.
Population .. .. .	9,417	15,013	21,123 (estimated).
Birth-rate, 37·3.	Death-rate, 16·09.	Zymotic death-rate, 2·2.	Infant mortality-rate, 162·4.
Phthisis death-rate, 0·56.		Respiratory diseases death-rate, 4·26.	

## INFECTIOUS DISEASES.

110 cases were notified, as compared with 112 in 1904. These included *Diphtheria* (7 cases, 1 death); *Erysipelas* (5 cases); *Scarlet Fever* (52 cases, 2 deaths); and *Enteric Fever* (46 cases, 4 deaths).

12 deaths occurred from *Measles*, 4 from *Whooping Cough*, and 20 from *Diarrhœa*.

*Scarlet Fever*.—This disease was less prevalent than in the previous year. 52 cases were notified as compared with 100 in 1904. 2 Deaths occurred.

*Diphtheria*.—7 cases were notified and one proved fatal. On inspection, defective drains were found on two premises; in the others no sanitary defects were found.

*Enteric Fever*.—46 cases were notified, and 4 deaths occurred. Only 9 cases were reported in 1904, and 1 death. 23 of these cases were removed to the Hospital. Notifications were received in every month, except February, March, and November.

## GENERAL CONDITIONS.

*House Accommodation*.—205 new houses were erected and occupied, as compared with 283 in 1904. 6 houses were closed as unfit for human habitation.

*Sewerage and Drainage*.—The sewerage works, commenced in May, 1903, have now been completed.

*House Refuse*.—All house refuse is removed daily from all parts of the District. It is deposited in hollows, away from the town, where it is said to cause no nuisance.

*Water Supply*.—All the houses in the District are supplied with water, but during the summer months the supply is inadequate. The construction of the storage reservoir at Blaencwmerwyn has not made the satisfactory progress that was anticipated; in some places the puddle trench was excavated to a depth of 80 feet, but no satisfactory bottom was found.

The *Model Lodging House* is well conducted and kept fairly clean.

*Slaughter-houses*.—These are all private, and are periodically inspected. The interiors are said to be clean, but the surroundings of five were found dirty and unkempt. A public abattoir is advocated, as in past years.

*Dairies, Cowsheds, and Milkshops*.—These were frequently inspected and found clean. During the summer months samples of milk were taken for analysis and found satisfactory.

## IMPROVEMENTS.

	£	s.	d.
Construction of the Main Sewerage Works from Cwmfelin to Blaen Caerau ..	22,674	4	4
6-inch pipe, sewer and manholes in Tonna Road .. ..	57	8	0
Enclosure around Dr. Thomas's memorial fountain, opposite Town Hall ..	64	18	9
Taking up and reconstructing the 6-inch sewer behind Bridge Street, building manholes, &c. .. ..	41	2	3
Repairing the public weighbridge, in Market .. ..	3	15	0
New sewer behind Bank Street, and building manholes .. ..	27	0	5
Making alterations to Town Hall .. ..	335	10	0
Purchasing 8-horse-power portable engine .. ..	272	10	0

## REQUIREMENTS.

The provision of a public slaughter-house.

The paving and channelling of many streets.

An adequate water supply.

The adoption of the Infectious Diseases Prevention Act.

An ambulance carriage for the Isolation Hospital.

Distribution of leaflets with instructions as to precautions to be taken in cases of infectious disease.

The enforcement of byc-laws as to the keeping of pigs.

## MARGAM.

Medical Officer of Health—J. H. DAVIES, M.D.

Area in acres, 18,347.

	1891.	1901.	1905.
Population ..	6,274	9,014	10,500 (estimated).
Birth-rate, 33·42.	Death-rate, 13·8.	Zymotic death-rate, 1·42.	Infant mortality-rate, 148·14.
	Phthisis death-rate 0·56		Respiratory diseases death-rate 2·38

## INFECTIOUS DISEASES.

95 cases were notified during the year as against 176 in 1904. These included *Diphtheria and Membranous Croup* (37 cases); *Erysipelas* (31 cases); *Scarlet Fever* (26 cases); and *Puerperal Fever* (1 case, 1 death).

5 deaths occurred from *Measles*, 10 from *Whooping Cough*, and 2 from *Diarrhœa*.

24 cases were removed to the Sanatorium during the year, viz. :—*Scarlet Fever* 11, and *Diphtheria* 13.

*Precautions against the spread of Infectious Disease*.—Immediate removal of cases to the Sanatorium is adopted wherever possible, and when this cannot be done isolation at home is carefully insisted upon, and after the case is over complete disinfection is carried out.



A serious epidemic of *Measles* occurred in November, but the closure of Taibach Schools resulted in checking the spread. *Whooping Cough* was very prevalent throughout the district. 10 deaths were attributed to it.

### GENERAL CONDITIONS.

Thorough inspection of the district was carried out, and all sanitary defects remedied as soon as they were discovered.

### IMPROVEMENTS.

Sewer extension at Toneirych.  
 Diversion of Sewer at Forge Field, Port Talbot.  
 Public Urinal, Port Talbot.  
 Ventilation of Sewers, Dyffryn Cottages.  
 Repairs to Reservoirs at Cwmgwyne, Lletty Piod.  
 Extension of water mains, Forge Field, Port Talbot.  
 New 6-inch water main to Aberavon.  
 Water mains and supply to Renallt.  
 New Road Bridge at Varteg, Bryn.  
 Fixing of motor danger signals.  
 Additional lighting at Port Talbot.  
 Completion of paving Bryngurnos Street, Bryn.  
 New road at Mynydd Bychan.  
 Road widening, Toneirych.  
 Contract for New Council Offices.  
 New footbridges, North Street and Cotton Row, Taibach.  
 Lighting of Cwbrombil.

### REQUIREMENTS.

Refuse Destructor.  
 Public Slaughter-house.

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### MERTHYR TYDFIL.

Medical Officer of Health—A. DUNCAN, M.B., C.M., D.P.H.

Area in acres, 17,761.

	1891.	1901.	1905.
Population .. ..	58,080	69,512	73,848 (estimated).
Birth-rate, 38.0.	Death-rate, 22.0.	Zymotic death-rate, 4.6.	Infant mortality-rate, 204.
Respiratory diseases death-rate, 5.59.	Cancer death-rate, 0.51.	Phthisis death-rate, 1.29.	

The number of births registered during the year was 2,810—1,386 males and 1,424 females. 89 of the births were of illegitimate forming 3.1 per cent. of the total births. The rate last year was 3 per cent. and in 1903, 2.94.

The *Infant Mortality* was 204 as compared with 140 for the 76 large towns, and 128 for the whole of England and Wales. The Medical Officer of Health observes :—"To diminish the terrible infantile mortality, I would recommend that when we become a County Borough a lady inspector should be appointed; she could also act as inspector of midwives. Her work as inspector would consist largely in visiting recent mothers, and advising them as to the proper feeding and hygiene of the children. As indicated in previous reports, improper feeding, due to ignorance of mothers, is at the root of a large part of the infantile mortality that prevails in the district. . . . . Another matter that should be constantly brought before the notice of children when at school, and before members of the community at large, is the evil effects of excessive alcoholic indulgence as the cause of poverty which is at the back of many of our sanitary difficulties. . . . ."

## INFECTIOUS DISEASES.

637 cases were notified as compared with 739 in 1904. These included *Small Pox* (1 case); *Scarlet Fever* (334 cases, 21 deaths); *Diphtheria and Membranous Croup* (132 cases, 22 deaths); *Enteric Fever* (95 cases, 14 deaths); *Puerperal Fever* (7 cases, 6 deaths); and *Erysipelas* (68 cases, 1 death).

130 deaths were due to *Measles*, an epidemic of this disease having occurred. This epidemic is most carefully and exhaustively explained, and also the prevalence of this disease in the district during the last 40 years is briefly traced. School notification is warmly advocated, and in this respect the Medical Officer of Health observes :—" . . . . . But the information should be systematical, and notification carefully made during inter-epidemic periods as well as when epidemics of Measles prevail."

12 deaths are attributed to *Whooping Cough*, 135 from *Diarrhoea*, 12 to *Influenza*, and 8 to *Enteritis*.

*Diphtheria*.—132 cases were notified as compared with 120 in 1904. 22 cases proved fatal, giving a death-rate of 0·28 per 1,000 of the population. 43 of the cases were removed to Hospital, and of these 1 died, giving a mortality of 2·3 per cent. Of the 89 cases not removed 21 died, or a mortality of 23·5 per cent.

*Scarlet Fever*.—Of the 334 cases, 21 proved fatal. This is equal to a case mortality of 6·2 per cent. or 0·28 per 1,000 of the population. The heaviest incidence of the disease was in the Dowlais, Penydarren and Cyfarthfa Wards.

*Enteric Fever*.—95 cases were notified, and 14 died. 56 cases were removed to Hospital, of whom 9 died, or a case mortality of 16·07 per cent. The Dowlais and Penydarren Wards showed the heaviest incidence of the disease.

*Puerperal Fever*.—Of the 7 cases notified 6 proved fatal. During 1904 there were 14 cases and 7 deaths.

*Diarrhoeal Diseases*.—135 deaths were registered under the various headings such as Epidemic or Summer Diarrhoea. Cases of Enteritis occurring in the summer and autumn in young children have been included under this heading. 115 of these deaths were of children under one year. The Health Department has re-issued a leaflet for distribution by Registrars, medical men, midwives, relative to the feeding of infants.

## GENERAL CONDITIONS.

*Isolation Hospital.*—This is nearly completed. In the meantime all the cases are sent to the Pant Hospital, and, if necessary, the Brecon Road and Mardy Hospitals can be used. Of the cases treated at the Hospital 74 were of Scarlet Fever, 60 of Enteric, 50 of Diphtheria, 12 of Erysipelas, and 1 case of Puerperal Fever.

*Refuse Disposal.*—Various types of destructors have been inspected by a Committee, and three have been included for final selection. The Borough Engineer has placed three alternative sites for the erection of the destructor before the Committee, but strongly recommends one of them alongside the Traction Company Depôt, and this is the site that will probably be chosen.

*Water Supply.*—A new water main from the Upper Neuadd to Treharris is in course of construction. This will replace the present main which supplies Dowlais and Treharris and also Bedlinog. By means of the new main a constant supply will be delivered to all parts of Dowlais and Treharris. The Council is experimenting with a Candy filter, and if this proves satisfactory a battery of these filters will be erected between the Upper and Lower Neuadd Reservoirs to filter the entire supply conveyed by the new main.

*Housing.*—During the year 57 houses were represented as unfit for human habitation, and of these 17 were closed, while the majority of the remainder have since been rendered fit for habitation. A table is inserted which indicates that a large amount of work has been done as regards insanitary houses. At a meeting of the Housing of the Working Classes Committee it was decided to recommend to the Council that they should proceed to build 38 houses at Penywern, Dowlais, as soon as terms could be arranged with the landowner.

*House to House Inspection.*—2,990 houses were inspected during the year, 3,475 nuisances were detected, and 1,999 notices issued.

*Factories and Workshops.*—There are in the district 328 registered workshops. 262 inspections of workshops, workplaces, and home-workers' premises were made during the year; as a result, 38 notices were served to abate nuisances under the Public Health Acts.

## IMPROVEMENTS.

These are not specified.

## REQUIREMENTS.

Infectious Diseases Hospital (nearly completed).

Refuse Destructors (under consideration).

A more adequate house accommodation for the working classes.

## MOUNTAIN ASH.

Medical Officer of Health—E. P. EVANS, M.R.C.S., L.R.C.P.

Area in acres, 10,493.

	1891.	1901.	1905.
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Population	..	..	20,976	..	31,093	..	37,000 (estimated).
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Birth-rate, 41·1. Death-rate, 17·4. Zymotic death-rate, 2·18. Infantile mortality death-rate, 191·07.

Phthisis death-rate, 0·89. Respiratory diseases death-rate, 3·9.

## INFECTIOUS DISEASES.

164 cases were notified as compared with 184 in 1904. These included *Scarlet Fever* (82 cases, 1 death); *Diphtheria and Membranous Croup* (45 cases, 8 deaths); *Enteric Fever* (13 cases, 2 deaths); *Puerperal Fever* (2 cases, 1 death); and *Erysipelas* (22 cases).

31 cases were removed to Hospital; these included *Diphtheria* 4, *Erysipelas* 5, *Scarlet Fever* 15, *Enteric Fever* 7, and 21 were discharged as convalescent. 11 deaths occurred from *Whooping Cough*, 35 from *Measles*, and 24 from *Diarrhœa*.

## GENERAL CONDITIONS.

*Slaughter-houses*.—These were inspected weekly. The majority of these are very difficult to keep clean. Two new slaughter-houses were erected in Abercynon and Ynysybwll.

*Nuisances*.—300 notices were served for the abatement of nuisances. In the majority of cases these were complied with.

*House to House Inspection* was carried out throughout the district. There are still many cases of overcrowding. 398 new houses were certified fit for human habitation, an increase of 131 on the previous year.

*Dairies, Cowsheds and Milkshops*.—These now number 65, an increase of 5 in the previous years. These were inspected twice a year, and found satisfactory.

*Common Lodging Houses*.—A new lodging house has been erected in Knight Street, Mountain Ash. The maximum number of lodgers allowed will be 73.

The *Water Supply* is abundant, and the new storage reservoir of 33,000,000 gallons capacity is now completed.

## IMPROVEMENTS.

Private Street Improvements in Darran Road, Napier and Ivor Streets, Mountain Ash, also at Margaret and Edward Streets, Abercynon.

Completion of the New Storage Reservoir, 33,000,000 gallons capacity.

## REQUIREMENTS.

Not stated.

## NEATH BOROUGH.

Medical Officer of Health—J. M. MORRIS, M.B.

Area in acres, 1,161.

	1891.	1901.	1905.
Population .. .. .	11,059 ..	13,720 ..	15,000 (estimated).
Birth-rate, 30·46.	Death-rate, 12·4.	Zymotic death-rate, 1·2.	Infant mortality-rate, 107·2,
	Phthisis death-rate, 1·06.	Respiratory diseases death-rate, 1·66.	



## INFECTIOUS DISEASES.

97 cases were notified, as against 92 in the previous year. These included *Diphtheria and Membranous Croup* (17 cases, 3 deaths) ; *Erysipelas* (23 cases, 1 death) ; *Scarlet Fever* (42 cases) ; *Enteric Fever* (12 cases, 1 death) ; and *Puerperal Fever* (1 case, 1 death).

1 death occurred from *Measles*, and 13 from *Diarrhoea*. No deaths were recorded from *Whooping Cough*.

*Disease and its spread.*—During the investigation of an outbreak of Typhoid Fever, it was found by the Sanitary Inspector that the family affected obtained part of its milk supply from a vendor, who frequently employed as milker a man who is also one of the town scavengers. This man proceeded to milk the cows after but indifferently washing his hands prior to doing so, and clad in the same garments as he used during scavenging.

The Medical Officer of Health observes :—“.....In connection with Measles it might be as well that medical men and teachers should know that, in the opinion of the best authorities, it is not necessary that those children, of an affected family, who have already had the disease, and are beyond the infant department, should be excluded from school attendance.....”

*Housing of the Working Classes.*—The housing problem is stated to have made a great headway during the year, as the Corporation is now proceeding with the erection, by instalment, of the proposed 100 houses for the working classes.

*Meat Inspection.*—11 seizures were made during the year ; the carcasses being consumed in the retorts at the Gasworks.

*Water Supply.*—A deficiency was experienced during the month of August, and the water supply was intermittent for a short period, but beyond this it was constant in the summer months. The reports on the bacteriological examination of samples of this supply have not been quite satisfactory, but, on the other hand, the results of the chemical analysis indicate the water to be of excellent quality.

*Factory and Workshops Act.*—The various duties under these Acts are said to have been duly carried out by the Factory Officer.

## IMPROVEMENTS.

Completion of the first instalment of the proposed 100 Corporation workmen's dwellings, at Mount Pleasant.

The clearing away of Mexico Row, &c.

Completion of the Renovated Market and Free Library.

Provision of new sanitary conveniences by the Chemical Road, Melincrythan.

Bacterial tanks at Llantwit.

## REQUIREMENTS.

The closing of back to earth houses.

Rapid furtherance of the scheme under the Housing of the Working Classes Act.

Provision of the Small Pox Hospital.

Improvement in the means for disinfection.

Periodical removal of manure from stables and mews.

## OGMORE AND GARW.

Medical Officer of Health—D. J. THOMAS, M.R.C.S., L.R.C.P.

Area in acres, 17,926.

		1891.	1901.	1905.
Population	.. ..	13,080	.. 19,907	.. 22,000 (estimated).
Birth-rate, 46.	Death-rate, 15·7.	Zymotic death-rate, 2·63.		Infant mortality-rate, 14·2.
		Phthisis death-rate, 0·59.		Respiratory diseases death-rate, 4·09.

## INFECTIOUS DISEASES.

97 cases were notified, as compared with 356 during the previous year. These included *Diphtheria* and *Membranous Croup* (11 cases, 4 deaths); *Erysipelas* (12 cases); *Scarlet Fever* (51 cases); *Enteric Fever* (16 cases, 1 death); and *Puerperal Fever* (6 cases, 6 deaths).

29 deaths occurred from *Measles*, 6 from *Whooping Cough*, and 18 from *Diarrhœa*.

*Scarlet Fever*.—Of the 51 cases notified, 27 occurred in the Ogmores and 24 in the Garw Wards respectively, and none of these cases proved fatal. The number of cases for the year is only about one-fifth of that for 1904. All cases were isolated as far as practicable, and disinfectants freely supplied. Of the 7 cases of *Diphtheria* notified, 6 occurred in the Garw and 1 in the Ogmores Wards. The Ogmores case—at Gilfach Goch—was probably one of importation. Those in the Garw Ward were all mild ones.

16 cases of *Enteric* were notified in the District, 14 in the Ogmores and 2 in the Garw Wards, the cases being for the most part mild ones.

There was an epidemic of *Measles* at Gilfach Goch during January and February, and another epidemic at Tynewydd in May, and in June it reached Nantymoel where it spread with great rapidity. The schools were closed at Nantymoel and Tynewydd.

The number of deaths from *Puerperal Fever* (6) is greater than has occurred from this disease for many years, and in this connection the Medical Officer of Health writes:—"It is difficult to account for this increase, especially as all maternity nurses are registered midwives who are versed in the use of antiseptics. One probable cause of the disease will always remain until we have a proper means of thoroughly disinfecting the maternity nurses' clothes. This defect will be remedied when the Isolation Hospital is completed."

## GENERAL CONDITIONS.

*House Accommodation*.—108 new houses were erected and occupied; 51 in the Ogmores and 57 in the Garw Wards. Many of these houses are provided with bath-rooms. Overcrowding is less prevalent.

*Refuse Disposal*.—The refuse is daily collected and deposited on various "tips" in the District, which are becoming a nuisance. The provision of means for better refuse disposal is a matter of urgent importance.

*Slaughter-houses*.—These are frequently inspected and found fairly clean, but their position—in close proximity to dwellings—is deprecated.

The *Water Supply* has been plentiful and wholesome throughout the District, with the exception of Bettws and Gilfach Goch. The Council has passed a resolution in favour of purchasing the water supply.

*Sewerage and Drainage.*—The District will be well drained when the Garw scheme is completed. The question of the disposal of sewage at Gilfach Goch is said to need attention.

#### IMPROVEMENTS.

				£	s.	d.
Ogmore and Garw Ward private street works	..	..	..	3,071	0	0
Garw public road improvements	..	..	..	437	0	0
Garw sewerage scheme (in course of construction)	..					
Isolation Hospital (near completion).						

#### REQUIREMENTS.

Public abattoirs—1 for Ogmore and 1 for Garw Wards.

Refuse Destructors—1 for Ogmore and 1 for Garw Wards.

### OYSTERMOUTH.

Medical Officer of Health—A. LLOYD JONES, D.P.H.

Area in acres, 2,615.

	1891.	1901.	1905.
Population	3,598	4,460	4,713 (estimated).
Birth-rate, 28·19.	Death-rate, 13·57.	Zymotic disease death-rate, 0·00.	Infant mortality-rate, 135·33.
Phthisis death-rate, 1·9.	Respiratory diseases death-rate, 1·9.		

#### INFECTIOUS DISEASES.

15 cases were notified as compared with 18 in 1904. These included *Membranous Croup* (1 case) ; *Erysipelas* (10 cases) ; *Scarlet Fever* (1 case) ; *Enteric Fever* (2 cases) ; and *Continued Fever* (1 case).

No cases were removed to the Swansea Isolation Hospital during the year.

#### GENERAL CONDITIONS.

*Sewerage and Drainage.*—The sewerage of Newton was commenced four years ago, at the top, but has not yet been connected with the main system discharging into the sea. This incomplete sewerage merely covers over a part of the watercourse running from Picketmead and Clyne Common, past Underhill, and conveys the sewage of Nottage, New-well Lane and Newton Village, to be, in turn, mixed with the surface water of these parts before its deposition on to the fields below. The effluvium arising from the manholes in its course is combated by the free use of disinfecting powder, and whilst the work is waiting completion this deodorising process satisfies local requirements in winter and conceals the smell in summer.

*Sewage and Refuse Disposal.*—The sewage from the cesspools is distributed over any available agricultural land, as far as possible from houses. Much unpleasantness is occasioned during the operation of emptying; the difficulty has this year been solved by adopting a more modern and more cleanly apparatus for aspirating these cesspools into a hermetically sealed drum.

Privy contents are mostly buried in the gardens of the occupiers, and where this is impossible it gets carted away with the other household refuse. All house refuse is carted away from pails and replaced by others on the days appointed for the removal. This refuse is carted on to a gardener's field at Norton and there deeply trenched and covered with soil. Some is being tipped into the hollows on Bracelet Common, and there covered with earth.

The *Water Supply* is in the hands of a private company, and the water supplied is unfiltered and intermittent. Samples of the water are examined both chemically and bacteriologically, every quarter, and found unsatisfactory.

*Slaughter-houses.*—There are 4 in the district, of which 2 only are registered and licensed under the Public Health Act, and they are said to be well ordered.

*Dairies, Cowsheds and Milkshops.*—There are 26 persons registered under the Order. These are supervised as regards cleanliness only, and the only check upon the character of the milk supplied is an occasional taking of samples for analysis by the County Police.

*Nuisances.*—5 notices were served during the year, and in all instances the defects have been remedied.

#### IMPROVEMENTS.

(These are not specified.)

#### REQUIREMENTS.

(These are not specified.)

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### PENARTH.

Medical Officer of Health—C. D. MUSGROVE, M.D.

Area in acres, 2,798.

	1891.	1901.	1905.
Population .. ..	12,200 ..	14,227 ..	14,500 (estimated).
Birth-rate, 25·1.	Death-rate, 12·8.	Zymotic death-rate, 1·3.	Infant mortality-rate, 106·8.
	Phthisis death-rate, 0·96.	Respiratory diseases death-rate, 2·41.	

#### INFECTIOUS DISEASES.

86 cases were notified as compared with 32 in 1904. These included *Diphtheria* (29 cases, 1 death); *Erysipelas* (20 cases, 1 death); *Scarlet Fever* (12 cases); *Enteric Fever* (23 cases, 4 deaths); and *Puerperal Fever* (2 cases).



1 death occurred from *Whooping Cough*, 10 from *Measles*, but none from *Diarrhæa*.

The Zymotic death-rate is nearly double that of 1904, chiefly owing to the number of deaths from Measles.

It is satisfactory to note that out of the 29 cases of *Diphtheria*, only one died, and this was a patient to whom medical assistance was only summoned when the patient was in a dying state.

*The Enteric Fever Epidemic.*—This epidemic, which consisted of 23 cases, lasted from September 6th to December 22nd, 1905. It affected almost the entire district of Cogan, and 3 cases occurred at Penarth. A case of illness was discovered at a local dairy, and arrangements were made that no one from the house was to go near the cows, or take part in the milking or selling. Two days later this very case was notified as one of Enteric and the patient was removed to Hospital and the necessary steps were taken to prevent the spread of the disease. This point indicated the source of infection.

The *Dairies, Cowsheds, Milkshops and Slaughter-houses* have been frequently inspected, and found to be in a satisfactory condition.

*Factory and Workshops Act, 1901.* No defects discovered. There are no underground bakehouses in the District.

#### IMPROVEMENTS.

(Not stated.)

#### REQUIREMENTS.

(Not stated.)

### PONTYPRIDD.

Medical Officer of Health—HOWARD DAVIES, M.R.C.S., L.R.C.P.

Area in acres, 8,033.

	1891.	1901.	1905.
Population .. ..	19,971 (old area) ..	32,316 ..	35,942 (estimated)
Birth-rate, 36·0.	Death-rate, 18·52.	Zymotic death-rate, 4·46.	Infant mortality-rate, 181.
	Respiratory disease death-rate, 3·53	Phthisis death-rate, 0·94.	

#### INFECTIOUS DISEASES.

344 cases were notified as compared with 329 in 1904. These included *Small Pox* (10 cases); *Diphtheria and Membranous Croup* (101 cases, 9 deaths); *Scarlet Fever* (185 cases, 9 deaths); *Erysipelas* (26 cases, 1 death); *Enteric Fever* (17 cases, 2 deaths); and *Puerperal Fever* (5 cases, 4 deaths).

54 deaths occurred from *Measles*, 36 from *Whooping Cough*, 48 from *Diarrhæa*, and 6 from *Enteritis*.

There were 185 cases of *Scarlet Fever*, 9 of which were fatal, as compared with 211 cases and 3 deaths in 1904.

95 cases of *Diphtheria* and 6 of *Membranous Croup* were notified, with 9 deaths, as against 71 cases and 9 deaths in 1904.

17 cases of *Enteric Fever* and 2 deaths occurred, as against 22 cases and 1 death in 1904. The case mortality was 11·7 per cent., as compared with 4·5 per cent. for 1904, 5·2 in 1903, and 15·3 in 1902. Of the 17 cases, 16 were removed to the Isolation Hospital, two of which died. These latter were in a very critical state on admission, and both died within five days. Every Ward was visited by the disease. The cases were all of a sporadic nature, and, with the above two exceptions, were promptly removed to the Hospital.

*Diarrhœa* was very prevalent amongst children during the summer months, no less than 42 deaths occurring during the first quarter of the year. The locality chiefly affected was the Trallwn Ward, where some 20 children died from this disease. The Medical Officer of Health observes :—".....It may safely be stated that a large proportion of the 45 children who died of *Diarrhœa* had been artificially fed upon cows' milk. It is therefore a matter of the greatest importance that every attention should be paid in the direction of securing a pure and wholesome milk supply for the district."

### GENERAL CONDITIONS.

*House Accommodation.*—Some 192 houses were erected and occupied during the year. In spite of this fact there still exists a great demand for workmen's cottages, the dearth of which results in the practice of two or more families sharing one dwelling, and consequent overcrowding. The sanction of the Local Government Board has been obtained for a loan of £5,000 for the erection of 25 workmen's dwellings at Treforest under the Housing of the Working Classes Act. Tenders have been received and the work will be proceeded with forthwith.

*Small Pox Hospital.*—The accommodation for the staff at this Hospital being inadequate, the Council decided, upon the recommendation of the Medical Officer of Health, to put up an additional structure of galvanised iron. This matter is now in the hands of the Surveyor.

*Removal and Disposal of Refuse.*—The collection of refuse has been satisfactorily carried out, but its disposal, owing to lack of tipping ground, has been attended with difficulties. Owing to litigation between the Council and the landowners, the erection of the destructor which had already been begun has had to be suspended and notices given to terminate contracts. It was the Council's intention to utilize steam motor cars provided with suitable trailers for the collection and transit of the refuse to the destructors.

The *Water Supply* was fairly ample except in some localities, especially on "The Rhiw" in the Graig Ward, where it had to be cut off for several days in succession. Chemical analysis of samples of the water indicated the presence of lead.

*Dairies, Cowsheds and Milkshops.*—There are 62 Cowkeepers and Dairywomen and 39 Milk Vendors in the district. The cowsheds and dairies were frequently inspected during the year, and defects remedied. Every effort is made to ensure the strictest cleanliness in connection with the milking, &c.

*Bakehouses.*—These, some 21 in number, have been regularly visited and inspected, and, with one exception—in Morgan Street—were kept in a sanitary state.

*Slaughter-houses.*—The public abattoir is said to have been satisfactorily administered. The carcasses of five pigs were condemned as unfit for human food. 14,901 animals were slaughtered as compared with 13,963 in the previous year. The six private slaughter-houses were kept in a good sanitary state.

*Common Lodging Houses.*—Three applications for registration as Common Lodging Houses were received, and two of these were granted. The premises for which the application was unsuccessful were Nos. 22 and 24, Mill Street, and these were reported upon by the Medical Officer as being unfit for human habitation.

*Mortuary.*—Plans for a public mortuary have been completed by the Council's Surveyor. The site is the Old Gas Works Yard.

*Public Lavatories and Conveniences* are to be erected in Penuel Square, and plans for the same have been prepared and approved.

*Public Baths and Washhouses.*—The question has been considered, but nothing definite decided upon.

#### IMPROVEMENTS.

These are not specified.

#### REQUIREMENTS.

Public Lavatories and Conveniences (plans prepared and approved).

Refuse Destructor.

Mortuary (plans prepared).

Public Baths and Washhouses.

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#### PORTHCAWL.

Medical Officer of Health—J. D. ALEXANDER, L.R.C.P., L.F.P.S.

Area in acres, 3,365.

	1891.	1901.	1905.
Population .. .. .	1,673	1,871	2,400 (estimated).
Birth-rate, 19·5	Death-rate, 12·9.	Zymotic death-rate, 0·83.	Infant mortality-rate, 127·6.
Phthisis death-rate, 0·41.		Respiratory diseases death-rate, 0·83.	

The average corrected death-rate for the present seven years was 13·3.

#### INFECTIOUS DISEASES.

101 cases were notified, as compared with 2 cases in the previous year. These included *Measles* (95 cases, 1 death); *Scarlatina* (4 cases); *Enteric Fever* (2 cases, 1 non-resident).

*Measles* was very prevalent in the District, commencing July and lasting to the end of October. A number of cases were brought by visitors. The Porthcawl School was closed during the month of August, and the Newton School was also closed from September 25th to October 23rd. Only 1 death occurred.

*Typhoid Fever.*—1 case occurred at Newton, the cause of which was not ascertained even after careful examination of the surroundings of the house.

The difficulty of isolating cases in the absence of an Isolation Hospital is emphasised.

The *Cowsheds* were periodically inspected and verbal instructions as to the cleanliness of udders, &c., were given.

*Slaughter-houses.*—These are private ones. One new one was built, and two are still not in accordance with the bye-laws as regards distance from dwellings.

*Scavenging.*—This is carried out by the Council's own workmen, and the street scavenging is completed before 8.30 a.m. The refuse is deposited in the Mercies Quarry, some 240 yards from the nearest dwelling-house, and is deodorized with lime. The refuse of Newton and Nottage is deposited on fields, far away from dwellings and so as not to be a nuisance.

*Drainage and New Buildings.*—Plans for 38 new buildings were passed by the Council and certificates of habitation were granted for 24 new dwelling-houses, making the total number of houses in the District 588.

*Sewerage.*—A sewerage extension scheme was carried out during the year at Newton, where the houses previously at too far a distance from the sewers may be joined.

*Camps.*—3,500 Volunteers camped at Loek's Common. Receptacles were provided for night soil and urine, these were removed, and all the refuse, &c., was burnt.

*Water Supply.*—A plentiful supply has been secured for the District, and it is to be hoped that the work will soon be commenced, and completed before the end of the season.

*Road Dust Nuisance.*—The Council have been busy as regards this matter, and have been very successful. Experiments were made with a solution of tar on a small portion of road, and so satisfactory were the results, that about  $1\frac{1}{2}$  miles were subsequently treated in the same manner. This one treatment did away with the dust nuisance for the season, and the roads were also greatly preserved.

## IMPROVEMENTS.

Repairs to Esplanade wall.

Abatement of road dust nuisance.

## REQUIREMENTS.

To push on without delay the works of water supply (in hand).

Isolation Hospital (well in hand).

Provision of sanitary conveniences, in various places, for men and women. Owing to the number of visitors to Porthcawl in the summer this is a pressing necessity.



## RHONDDA.

Medical Officer of Health—J. D. JENKINS, M.D., B.S., D.P.H.

Area in acres, 23,884.

	1891.	1901.	1905.
Population .. .. .	88,351	114,439	124,988 (estimated).
Birth-rate, 37·3.	Death-rate, 19·2.	Zymotic Death-rate, 2·8.	Infant mortality-rate, 199.
Phthisis death-rate, 0·72.	Respiratory diseases death-rate, 3·88.		

The number of births registered was 4,664, which is less than that of any previous year since 1901 ; the largest number—4,937— was recorded in 1902, since which period there has been a progressive diminution. Notwithstanding this decrease, the yearly total of 1905 exceeds the average for the last decennium to the extent of 200 births.

During the year 2,348 deaths were registered. In comparison with the ten previous years, the nett number of deaths for the year has been exceeded on two occasions—in 1899 and 1901 respectively. The death-rate of the District has been unfavourably influenced by the colliery explosion at Clydach Vale (33 deaths), and Wattstown (119 deaths). If allowance be made for the deaths so caused, the above rate (19·2) will be reduced to 18·0.

Compared with the 76 great towns Rhondda continues to occupy an unfavourable position. The average rate for England and Wales is 15·7 per 1,000, the rates varying from 7·6 at Hornsey to 22·1 at Merthyr Tydfil. Only five of these towns have rates exceeding that of the Rhondda. Of course, the explosions referred to have unfavourably influenced the relative position of the District.

## INFECTIOUS DISEASES.

534 cases were notified, as compared with 1,240 in 1904. These included *Small Pox* (2 cases) ; *Diphtheria and Membranous Croup* (139 cases, 16 deaths) ; *Erysipelas* (69 cases, 2 deaths) ; *Scarlet Fever* (203 cases, 11 deaths) ; *Enteric Fever* (102 cases, 16 deaths) ; *Continued Fever* (6 cases) ; and *Puerperal Fever* (13 cases, 4 deaths).

*Small Pox*.—2 cases occurred in Wattstown in August. These were isolated at the old Hospital, and the infected house and contents thoroughly disinfected. Every effort was made to trace all direct or indirect contacts, and the names and addresses of all such were handed to the Public Vaccinator with a view of securing vaccination or re-vaccination. All the medical practitioners throughout the District were informed by letter that the disease existed in the Council's area, and were asked to communicate with the Medical Officer of Health by telegraph, or telephone, upon the occurrence in their respective practices of any cases suspected to be *Small Pox*. All the school children in the infected area were examined with the object of discovering the unvaccinated and the inefficiently vaccinated among them. In the course of the first week after the re-opening of the schools, 718 children were examined, and of these, 64, or 8·9 per cent, were found unvaccinated, and their names and addresses were forwarded to the Public Vaccinator. Handbills, &c., containing information concerning the disease and the protection afforded by vaccination and re-vaccination were distributed in the neighbourhood.

After careful inquiry it was found that the disease was introduced by a vagrant, who had come from Ireland.

The District is still unprovided with a suitable Small Pox Hospital, but negotiations are taking place with a view of getting a site situated on the hill separating the two valleys.

*Typhoid Fever.*—In spite of the fact that the statistics for 1905 were unfavourably affected by the continuation into that year of a very serious epidemic, the total number of notified cases of this disease was the lowest since the adoption of the Notification Act, in 1894. A larger proportion than usual was removed to the Hospital, into which 66, or 61 per cent. were admitted. Of those removed, 9 died, equivalent to 13·6 per cent., and of those nursed at home 7 died, or a fatality of 16·7 per cent; the fatality for the whole District was 14·8 per cent. The number of occupants per typhoid-infected house was higher by ·8 than in the case of Scarlet Fever and Diphtheria, and 1·4 persons per house higher than the average for the District.

*Scarlet Fever.*—It is satisfactory to note that the diminished prevalence of this disease, commented upon in the annual reports since 1902, has been more than maintained during 1905. The total number of cases notified during the latter year amounted to only 203, or one-half that for the immediately preceding year, and one-fourth the average for the ten previous years. The case reports of the Sanitary Inspectors show that the infected houses contained a slight excess of occupants in comparison with the whole District. There has as yet been no provision made for the isolation and treatment of Scarlet Fever cases at the Hospital, but plans, &c., are being prepared with the object of proceeding forthwith with the erection of a block which can be utilised for this purpose.

*Diphtheria.*—The diminished prevalence of this disease, which has been a noticeable feature in the District since 1901, has continued in 1905, the number of cases being only 139, as compared with an average of 791 for the past ten years. The fatality has maintained the low rate which has prevailed since the adoption of anti-toxin as the chief mode of treatment. The 139 cases were attended by 16 deaths—equivalent to a mortality of 11·5 per cent. As in the case of Scarlet Fever and Enteric Fever, the houses affected with Diphtheria contained more occupants per house than the average for the whole District.

*Diarrhœa* continues to be one of the most destructive diseases to infants under one year of age. During 1905 it caused 172 deaths, 148 of these being under one year of age. The mortality from this disease during the last ten years has been practically three times as high as that pertaining to the ten previous years. The great contrast between the mortality rates attending the two periods referred to is believed to be due, to a great extent, to the increased and constantly increasing use of artificial foods in the rearing of infants, and to the tendency on the part of mothers to place less reliance on the natural source of their babies' sustenance during the first few months of life.

*Phthisis.*—91 deaths were registered, corresponding to a death-rate of 0·72, as against 0·94 in 1904, the average for the last ten years being 0·87.

Relatively few cases were treated at the Hospital during 1905, the total number being 87, as compared with 222 and 231 patients in 1903 and 1904 respectively. This diminution as regards cases admitted was partly due to the lessened prevalence of the diseases to the admission of which accommodation is available.

#### GENERAL CONDITIONS.

*Sewerage.*—53 houses were connected with the Council's sewer. The number of houses still remaining unconnected is 451. A large number of the remaining houses empty into surface water drains or a

neighbouring brook owing to there being no sewer within the statutory distance. On the other hand, a number are isolated farms or cottages which will probably always remain unconnected. The Bush Houses, Clydach Vale (50), are being provided with pail closets, the slop sewage to empty into the Clydach brook as in the past ; 20 of these have already been erected. The same number of houses at Appletree, Dinas, are situated below the Council's sewer, and can only be dealt with by the provision of a small bacterial tank, the pumping of the sewage to a point above the level of the existing sewer, or by the construction of a subsidiary sewer, long and deep enough to allow its lower end to discharge into the main sewer at some point lower down the valley.

The *Scavenging and Refuse Disposal* is carried out as in the past. The 200 loads of refuse collected daily (except Sunday) are taken to 15 places in the District, with the exception of 14 or 15 loads burnt at a refuse destructor at Ystrad Rhondda.

The majority of the sites are within 100 yards of dwellings and are positively dangerous.

*House Accommodation.*—904 houses were passed for occupation. It seems, however, from the evidence collected in the course of the systematic inspection made that the demand for houses is apparently as great as ever.

*Water Supply.*—The variety in the water supplies of the District continues to cause much anxiety to and to demand much of the time and consideration of the Council, more especially of the Health Committee. There are no fewer than 13 sources, each of which supplies 50 or more houses. These supplies are distinct in respect of their sources, storage, treatment, and distribution. In most cases the water is derived from uncultivated uplands. The water supply of nearly 800 houses in Clydach Vale has been the subject of special reports to the Council during the year. This water is practically unfiltered ; all the sources are liable to pollution, and the liability to an epidemic of some water-borne disease is always present. To augment the supply to houses in the higher districts of the Council's area at Clydach Vale, an iron tank of 100,000 gallons capacity and fed with water by means of a pump driven by a gas engine of 20 indicated horse power, has been erected, thereby ensuring a constant supply for every house in this area. A new 15-inch pipe has been laid from the Waterworks, Treherbert, to Ystrad, and it has been in use since 22nd of December, and has enabled the mains to be kept charged with water at a constant pressure, so that a continuous supply for each house has been secured. Mr. J. E. Hughes, the Council's Resident Engineer, has been busily engaged upon the plans and specifications preparatory to the execution of the works, and it is intended to advertise for the construction of the tunnel of the Llyn Fawr Scheme at an early date.

## IMPROVEMENTS.

(Not specified).

## REQUIREMENTS.

The provision of a more abundant supply of water.

The introduction of a better system of refuse disposal.

A proper provision for the isolation of Small Pox cases.



# RURAL DISTRICTS.

## COWBRIDGE.

Medical Officer of Health—E. BOOTH MELLER, M.R.C.S., L.R.C.P.

Area in acres, 40,015.

	1891.	1901.	1905.
Population . .	6,072.	6,372.	7,600.
Birth-rate, 27·5.	Death-rate, 12·3.	Zymotic death-rate, 1·4.	Infant mortality rate, 105·2.
	Phthisis death-rate, 1·18.	Respiratory diseases death-rate, 1·57.	

## INFECTIOUS DISEASES.

43 cases were notified as compared with 38 in 1904. These included *Diphtheria and Membranous Croup* (10 cases, 1 death); *Erysipelas* (9 cases, 1 death); *Scarlet Fever* (17 cases); and *Enteric Fever* (7 cases, 2 deaths).

5 deaths occurred from *Whooping Cough*, and 3 from *Diarrhœa*.

*Chicken Pox* was prevalent at St. Athan during April.

An extensive epidemic of *Measles* occurred during the early portion of the summer. Llangan, Aberthyn, Colwynstone, Penllyn, Llandough, and St. Marychurch being chiefly affected.

10 cases of *Diphtheria* were notified in the following localities :—Penllyn, Llantwit Major, Trerhyn-gwyll, Ystradowen, Dolau and Llanelay. At Llantwit Major the infection appeared to have been derived from previous cases. Some recent work connected with house drainage may have been the source of infection. The origin of the other cases was not ascertained.

*Typhoid Fever*.—7 cases were notified from Brynna, Gileston, Llanharan, and Llantwit Major. In two cases the disease appeared to have been contracted in Bridgend, and in another case from the use of impure water.

*Scarlatina*.—17 cases were notified from no fewer than 11 different localities.

The Medical Officer of Health writes :—“ . . . . . With the exception of Scarlet Fever, few cases, comparatively, have either spread beyond the houses first attacked or have proved fatal. Until a portable disinfecting apparatus and an Isolation Hospital have been provided, neither proper disinfection nor isolation are practicable. The latter is, I understand, in course of erection.

## GENERAL CONDITIONS.

*Water Supply*.—Shortage has been experienced in parts of the district during the drought of the past summer. The scheme for supplying Llantwit Major has been approved by the Local Government



Board, and a loan of £4,460 obtained for carrying out the work. The work is in hand, and a supplementary loan of £1,550 has been applied for, for a compensation main. Improvements have been made to the Garth Supply, and to the wells at Llanblethian and Aberthyn. An offer has been made to supply the Pencoed Parish Council with water for domestic use from the overflow from the Llanharan and Peterston-super-Montem Works.

*Drainage.*—A scheme of sewerage for Llantwit Major is urgently needed, and this should be considered as soon as the water supply is completed. At Llanharan the sewers are periodically inspected every month or so.

*Slaughter-houses.*—26 visits have been made to the slaughter-houses. Two unlicensed premises are used for the purpose—at Brynna and Llantwit Major.

*Dairies and Cowsheds.*—These have been frequently inspected during the year.

*Factories and Workshops.*—These have been inspected on many occasions, and, generally speaking, were found in a satisfactory condition as regards ventilation and closet accommodation.

#### IMPROVEMENTS.

Improvements to sewer outfalls at Brynna and Dolau.

Repairs to public wells at Llanblethian and Aberthyn.

Improvement to the Garth Waterworks.

#### REQUIREMENTS.

Scheme of sewerage for Llantwit Major.

Improved water supply for portions of district.

An Isolation Hospital.

Increased burial accommodation at Llanharan.

Abatement of nuisance *re* the depositing of refuse near the Cowbridge and Llanblethian Elementary School.

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### GELLIGAER AND RHIGOS.

Medical Officer of Health—W. W. JONES, M.D., D.P.H.

Area in acres, 22,357.

	1891.	1901.	1905.
Population .. ..	13,715	18,316	25,150 (estimated).
Birth-rate, 38.	Death-rate, 17·8.	Zymotic death-rate, 3·8.	Infant mortality rate, 153.
	Phthisis death-rate, 1·03.	Respiratory diseases death-rate, 3·7.	

#### INFECTIOUS DISEASES.

464 cases were notified, as compared with 278 in 1904. These included *Diphtheria and Membranous Croup* (342 cases, 30 deaths); *Erysipelas* (7 cases); *Scarlet Fever* (73 cases, 1 death); *Enteric Fever* (38 cases, 5 deaths); and *Puerperal Fever* (4 cases, 1 death).

48 deaths occurred from *Measles*, 5 from *Whooping Cough*, 8 from *Diarrhœa*, 28 from *Enteritis*, and 26 from *Phthisis*.

*Scarlet Fever*.—73 cases were notified, 1 proved fatal, as against 69 cases and 1 death in 1904.

*Diphtheria and Membranous Croup*.—There is again recorded a high fatality from these diseases. This is the third year in which there has been a continuous endemic prevalence of Diphtheria in Fochriw and Pontlottyn, with occasional occurrence of epidemic activity. There has been a gradual increase in the proportion of cases in which the serum injection is used since 1902, and there has been a corresponding reduction in the proportion of deaths.

### GENERAL CONDITIONS.

*Water Supply*.—The storage reservoir at Blaen-Rhymney is now completed. Its capacity is 70 million gallons, and when the new main is laid, the benefit of this increased storage will be felt. A 14-inch main is being laid from Rhymney Bridge to Troedyrhiwfuweh, reduced to 12 inches from Troedyrhiwfuweh to Brithdir and to 10 inches from Brithdir to Gilfach. When these have been completed the whole valley will be well supplied with water.

*Isolation Hospital*.—Plans were prepared and submitted to the Local Government Board, but the Board considered the Council's plans somewhat too pretentious and expensive for so small a hospital. Some members of the Council, together with the Medical Officer of Health and the Architect, visited the Local Government Board during the year, and a local inquiry was held in November, so that it is anticipated that it will be possible to commence the work at an early date.

*Removal and Disposal of Refuse*.—An additional piece of suitable land has been leased at Pontlottyn for the deposit of house refuse. In other parts of the district the refuse is said to be dumped down in all sorts of undesirable places. The practice of allowing the scavenging contractor to select his own tipping ground still continues, with the result that he deposits the refuse on the nearest available waste ground, however near to inhabited houses this may be, until given notice to discontinue by the Sanitary Inspector, and so it continues, the Sanitary Inspector following the contractor from place to place.

*Common Lodging Houses*.—These are regularly inspected, and proceedings have been taken for the infringement of bye-laws. One new lodging house was registered during the year at Penpedairheol.

*Slaughter-houses*.—These are regularly inspected, and some of them are said to require frequent visits to keep them up to the required standard. A public abattoir is advocated for the Bargoed district.

*Dairies and Cowsheds*.—Many of the cowsheds are not up to the proper standard as regards head-room, air space, &c., and it is proposed to put the last Order in force. Copies of the requirements have been issued from time to time to the farmers, &c.

*Factories and Workshops*.—There are 67 workshops, 2 factories (saw-mills), and 13 domestic workshops in the district. There were 178 visits of inspection paid, and 9 defects were found and remedied.

*Housing of the Working Classes Act, 1890*.—3 houses were represented as unfit for human habitation, and closing orders were obtained in each case and duly enforced.

## IMPROVEMENTS.

Repairs to water mains and provision of water supplies.  
 Sewer extensions at Pontlottyn, Newtown, and Troedyrhiwfuwel.  
 New Public Urinals at Gelligaer, Pontlottyn, and Brithdir.  
 Improvements in Church Street and Hanbury Road, Bargoed.  
 Trees planted on sewage lands.  
 Provision of a Fire Engine.

## REQUIREMENTS.

Urban Powers.  
 Improved method of collection and disposal of refuse.  
 Isolation Hospital and Steam Disinfecter.  
 Sewerage schemes for Hengoed, Pengam and Gelligaer.  
 Extensions of sewerage schemes at Deri, Gilfach and Pontlottyn.  
 Completion of the new water mains.  
 Piping the supply from Blaen-Rhymney to the Filter Beds and enlargement of the latter.

## GOWER.

Medical Officer of Health—ALFRED E. MOLE, M.B., C.M.

Area in acres, 38,124.

		1891.		1901.		1905.
Population	.. ..	7,432	..	7,266	..	7,266 (estimated).
Birth-rate, 26.1.	Death-rate, 16.3.	Zymotic death-rate, 0.82.			Infant mortality-rate, 8°.5	
	Phthisis death-rate, 0.62.	Respiratory diseases death-rate, 2.61.				

## INFECTIOUS DISEASES.

22 cases were notified, as compared with 106 in 1904. These included *Diphtheria* (1 case, 1 death); *Scarlet Fever* (11 cases); *Enteric Fever* (3 cases, 1 death); *Erysipelas* (4 cases); and *Puerperal Fever* (3 cases, 1 death).

An epidemic of *Measles* occurred in Western Gower which necessitated the closing of Rhossily and Porteynon Schools for a few weeks. Only one death occurred from this disease. The notification of the first case of Measles in any house is advocated as a preventive measure.

## GENERAL CONDITIONS.

*Isolation Hospital.*—This question has been before the Council for some time.

*Slaughter-houses.*—These have been inspected, and their owners are complying with the requirements of the bye-laws recently adopted by the Council.

*Water Supply.*—The water supply throughout the district is believed to be sufficient, but it might be greatly improved. Two samples were submitted for analysis, and the report was favourable.

*Sewage Disposal.*—The conservancy system is in vogue—chiefly privy midden—and in some cases earth closets are used.

*Disinfection* is carried out by fumigation, the washing of walls, floors, &c., with disinfectant, and linewashing.

#### IMPROVEMENTS.

New pumps at Killay, Pyle Wells, Bishopston and Llanmadoc.

Repairs to pumps in Llanrhydian Higher.

Cleaning pipes and repairing Wernffrwd Well.

Repairs to Scurlage, Hennings, Bishopston and Parkmill Wells.

Improvements of Mill and Llotrog Wells, Penclawdd.

New force pump and fittings.

#### REQUIREMENTS.

Improved water supplies in portion of the district.

Isolation Hospital accommodation.

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### LLANDAFF AND DINAS POWIS.

Medical Officer of Health—RICHARD PRICHARD, M.D., D.P.H.

Area in acres, 65,469.

	1891.	1901.	1905.
Population .. ..	18,539	23,504	25,327 (estimated).
Birth-rate, 28·27.	Death-rate, 13·66.	Zymotic death-rate, 1·18.	Infant mortality-rate, 99.
	Phthisis death-rate, 0·82.	Respiratory diseases death-rate, 2·88.	

#### INFECTIOUS DISEASES.

348 cases were notified as compared with 352 in 1904. These included *Diphtheria and Membranous Croup* (53 cases, 7 deaths); *Scarlet Fever* (48 cases); *Erysipelas* (19 cases, 1 death); *Enteric Fever* (8 cases, 1 death); and *Whooping Cough* (229 cases, 9 deaths).

5 deaths occurred from *Measles*, 7 from *Diarrhœa*, and 6 from *Enteritis*.

The *Diphtheria* death-rate was 31 per 1,000 living, as compared with 24 in each of the two preceding years. The case mortality was 15%. The fatal cases were all in young children, in whom the anti-diphtheretic serum was not used at all, or too late. 17 patients were removed to the Radyr Isolation Hospital, where two died from post-diphtherial paralysis, after being admitted late. Attendance at school



is stated to have been instrumental in spreading the disease, but prompt isolation prevented its assuming epidemic prevalence. The following schools were closed on account of the prevalence of infectious disease. In respect of *Whooping Cough*—Rudry School, from 13th February, four weeks; Dinas Powis till 23rd January; Llandaff City and Pendoylan, four weeks, from 30th June; Radyr (Measles and Mumps), four weeks, from 21st November; Llanishen, 27th November to 22nd December. On account of *Measles*—Maindy (Llandaff), three weeks from 14th April; Porthkerry from 20th July to 28th July; Llanishen, May 1st to May 22nd.

There was no case of *Puerperal Fever* in the whole district. The patient removed to hospital from Ffonmon as a case of “Typhoid” had certain septic symptoms, but she made a rapid recovery.

*Enteric Fever*.—The case mortality from this disease is 12·5. The fatal case was from complications following an attack of Typhoid in the previous year. Two cases occurred at Llandaff Mills, in May, and a special report was presented with reference to them.

*Isolation Hospital*.—A Local Government Board inquiry was held at the Council Offices on the 15th June into the application of the District Council for sanction to borrow £14,500 for the purposes of an Infectious Diseases Hospital on a site acquired near Ely, Llandaff. The Local Government Board sanctioned the loan on condition that cases of Small Pox will not at any time be received into any building that may be erected on the site, and to this the Council agreed. The contract has been let, and the work is being proceeded with.

*Small Pox Hospital*.—There is no provision for isolating cases of Small Pox. It is stated that the Penarth Urban District Council appear disinclined to a joint arrangement with them. The Barry District Council are building a Small Pox Hospital, near the Waycock Road, which will be ready by the end of 1906. The assent of the County Council was obtained on the condition that patients from this district would be admitted on terms.

#### GENERAL CONDITIONS.

*Water Supplies*.—The numerous wells and pumps in the district have been systematically inspected and repairs and renewals have been effected under the supervision of the Surveyor and his staff.

Water from the mains is now laid on to all the houses in Caerau Village. The mains have been extended as far as the Church and adjacent house at Lisvane.

*Sewerage and Drainage*.—Extensions of the sewers have been effected, such as at Pantbach, to the new houses at the Philog.

The St. Andrews Sewerage work is completed. Owing to some ground water finding its way into the sewers, the Council had certain lengths of stoneware pipes replaced by iron ones, and the inflow was diminished. 235 house drain connections have been made, leaving 89 to be done.

The Ely Sewerage Scheme has been somewhat delayed, but there is now every prospect of the work being proceeded with rapidly.

*Housing of the Working Classes*.—Two houses were closed as unfit for human habitation, and 11 cases of overcrowding were abated. 127 new houses were inspected, and water certificates granted.

*Scavenging.*—The only alteration in the work is that the scavenging of Llandaff Parish is done by night, that is, all refuse and receptacles must be off the streets by 9 a.m. The cesspits are also emptied by night.

*House to House Inspection* has been carried out throughout the year.

*Dairies, Cowsheds and Milkshops.*—These have been regularly inspected and the bye-laws as to cleanliness, drainage, &c., strictly enforced. The water supply of Cwm Farm, Radyr, is unsatisfactory, being derived from a shallow well, which is liable to become dry in the summer and to be polluted at all times.

*Slaughter-houses.*—The Council possesses Urban Powers as to these, and repeated visits have been made in order to see that the occupiers comply with the bye-laws. It is stated that “owing to the number of slaughter-houses, and the wide area over which they are distributed, it has been impossible to make systematic inspection of the carcasses after slaughtering, but every opportunity is taken to inspect the meat exposed for sale.”

*Factories and Workshops.*—These were systematically inspected during the year, and all defects were remedied without necessity for prosecution.

#### IMPROVEMENTS.

Extension of sewers in parts of the district.

The completion of the St. Andrew's Sewerage Work and the connection of 235 house drains thereto.

The laying on of water from the main in the Caerau Village.

#### REQUIREMENTS.

A Small Pox Hospital.

An Infectious Diseases Hospital (in hand).

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### LLANTRISANT AND LLANTWIT FARDRE.

Medical Officer of Health—W. NAUNTON DAVIES, M.D.

Area in acres, 18,232.

	1891.	1901.	1905.
Population .. .. .	8,509	11,846	12,097 (estimated).
Birth rate, 42.0.	Death-rate, 17.6.	Zymotic death-rate, 2.72.	Infant mortality-rate, 135.
	Respiratory diseases death-rate, 3.3.	Phthisis death-rate, 0.99.	

#### INFECTIOUS DISEASES.

94 cases were notified, as compared with 78 in 1904 and 124 in 1903. These included *Diphtheria*

and *Membranous Croup* (34 cases, 5 deaths) ; *Erysipelas* (8 cases, 1 death) ; *Scarlet Fever* (45 cases) ; *Enteric Fever* (4 cases, 4 deaths) ; *Continued Fever* (1 case) ; and *Puerperal Fever* (2 cases, 1 death).

15 deaths occurred from *Measles*, 6 from *Whooping Cough*, and 3 from *Diarrhœa*.

The Medical Officer of Health observes :—".....I have in my former reports expressed the opinion that Measles should be included under the Notification Act in this District, and I still adhere to that view.....Few people think Measles of much importance, and imagine that their children must sooner or later 'take it,' and that being so, the sooner the better, to get it over. In a great many instances when the child is attacked with a complaint, so little is thought of it by the parents that the little patient is allowed to run about to the imminent danger of itself and others, and it is only when they find that it is seriously ill with Pncumonia or Bronchitis, or some such complication, that they begin to realise the necessity of calling in medical assistance. In the meanwhile, the child affected has, besides getting a serious complication, been mixing up with others and spreading the disease broadcast. If it were included under the Infectious Diseases Notification Act, and the first case or cases reported, then means could be taken to check what must otherwise almost certainly become a dangerous epidemic.

These remarks apply equally to Whooping Cough."

*Isolation Hospital*.—The Hospital at Rhiwfelen is completed, except for some details as to furnishing, and will soon be ready for the reception of patients.

### GENERAL CONDITIONS.

*Water Supply*.—Generally speaking, this is satisfactory. In some villages, however, surface wells are the sources, and in most instances these are open to pollution, notably at Pencoedcae, Penrhiwfer, Efail Isaf, Beddau, and Rhiwsaeson. At the former of these places there are constant outbreaks of *Enteric Fever* and *Diphtheria*.

*Slaughter-houses*.—These are said to be, with a few exceptions, perfectly unfit for the purpose ; being badly paved and drained, inadequately supplied with water, air, and light, and in many instances too near dwelling-house.

*Lodging Houses*.—There are no registered lodging houses in the District. The old cottages at Llan-trisant that are used as such are unfit for the purpose.

*Houses unfit for habitation*.—There are still many of these, but they are becoming fewer year by year.

*Milk Supply*.—The Medical Officer of Health observes :—".....The method by which milk is conveyed from the cow to the consumer, and the 'opportunities' it is given of 'acquiring' dust, filth, and consequently germs of various kinds is something appalling.....As things are at present, the cowsheds are for the most part deficient in light, air, and water, and scarcely ever thoroughly cleansed. The cows are practically never groomed or cleaned, and are, in 999 cases out of 1,000, plastered with manure, which readily finds its way into the milk pail. In addition to this, persons who do the milking are often exceedingly dirty and filthily clad ; their hands are scarcely ever specially washed before milking, and sometimes have various kinds of rash and sores on them ; the cows' udders are practically never washed, except with the milk from the pail. What wonder, then, that milk, *as supplied*, is the cause of so many evils.

*Bakehouses*.—These have been kept clean and have a good water supply.

## IMPROVEMENTS.

Isolation Hospital at Rhiwfelen.

## REQUIREMENTS.

Periodical inspection by a veterinary surgeon of dairy cattle and cowsheds.

Cleanly system of conveying milk from the cow to the consumer.

Periodical inspection of schools.

Some means by which children should not be forced by the school authorities at all times to attend school irrespective of their fitness, and without the great inconvenience of producing a doctor's certificate.

Better water supply at Pencoedcae, Efail Isaf, Penrhiwfer, Beddau, and Cardiff Row, Llantrisant.

A drainage scheme for Pencoedcae—most urgent.

Inclusion of Measles and Whooping Cough under the Infectious Diseases Notification Act.

Prohibition of keeping pigs within 100 yards of dwelling houses.

## NEATH.

Medical Officer of Health—T. P. WHITTINGTON, L.R.C.P., L.R.C.S.

Area in acres, 33,507.

	1891.	1901.	1905.
Population .. .. .	23,953	27,343	28,021 (estimated).
Birth-rate, 40·28.	Death-rate, 17·39.	Zymotic death-rate, 1·99.	Infant mortality-rate, 150.
	Phthisis death-rate, 0·96.	Respiratory diseases death-rate, 3·03.	

## INFECTIOUS DISEASES.

239 cases were notified, as compared with 160 in 1904. These included *Diphtheria and Membranous Croup* (42 cases, 7 deaths); *Erysipelas* (26 cases, 2 deaths); *Scarlet Fever*, (16 cases, 1 death); and *Puerperal Fever* (4 cases, 1 death.)

18 deaths occurred from *Measles*, 9 from *Whooping Cough*, 12 from *Diarrhœa*, and 13 from *Enteritis*.

An outbreak of *Enteric Fever* occurred in April in and around Glyn Neath. The patients were nearly all men working in the Pwllfaron Colliery, and the water supply is believed to have been the cause, the men being in the habit of drinking water from a water spout near the Colliery. This water comes through an open water-course from a pond, which at times contains a mass of decayed vegetable matter, and to be open to pollution by sheep and cattle. The Colliery Company promised to give the men another water supply.



## GENERAL CONDITIONS.

*Water Supply.*—The Dringarth Waterworks have been commenced, and when completed there will be ample supply for the whole District.

*Scavenging.*—Considerable improvement is said to have taken place in the scavenging of the District.

*Overcrowding* is still prevalent owing to the scarcity of houses and high house rents.

*Drainage.*—Plans, &c., are now being prepared for the Resolven and Seven Sisters drainage schemes, and the drainage works for Pentreffynon have just been commenced. Improved drainage is still needed for Cwmavon, Glyn Neath, Cilfrew, Cadoxton, and Seven Sisters.

*Slaughter-houses.*—All these are said to be satisfactory, with the exception of the one at Pontneath-vaughan Road, which was condemned and closed.

*Factories and Workshops.*—These have been frequently inspected, and all requirements attended to. All the bakehouses are well ventilated and kept clean, with the exception of the Bakery at Somerset Place, Cwmavon, and this one has on many occasions been found extremely dirty, and after several warnings the matter has been reported to H.M. Inspector of Factories to deal with.

## IMPROVEMENTS.

Particulars of the sanitary work done in each District is appended.

## REQUIREMENTS.

Sewage works for Cwmavon, Glyn Neath, Cilfrew, Cadoxton, and Seven Sisters.

Improved water supply for these districts.

Infectious diseases hospital.

## PENYBONT.

Medical Officer of Health—WYNDHAM RANDALL, M.R.C.S., L.R.C.P.

Area in acres, 41,632.

	1891.	1901.	1905.
Population .. ..	13,194	14,581	15,891 (estimated).
Birth-rate, 32.41.	*Death-rate, 16.24.		Zymotic death-rate, 1.76.
	Phthisis death-rate, 0.50.		Infant mortality-rate, 124.2
			Respiratory diseases death-rate, 40.9.
	* The corrected death-rate is 14.40.		

## INFECTIOUS DISEASES.

101 cases were notified, as compared with 147 in 1904. These included *Diphtheria and Membranous Croup* (55 cases, 8 deaths); *Erysipelas* (8 cases, 1 death); *Scarlet Fever* (33 cases); *Enteric Fever* (4 cases); and *Puerperal Fever* (1 case).

14 deaths occurred from *Measles*, 5 from *Whooping Cough*, 1 from *Diarrhoea* and 2 from *Enteritis*.

*Diphtheria*.—The cases were distributed through the greater portion of the district. The bulk of the cases were associated with school life. The number of cases under five years was 17; between the ages of five years and fifteen, 27 (about 49·1 per cent.); and of the other cases under and over this period of life, they were almost all, without exception, infected by the children who came home ill from school. Great carelessness is said to be displayed, more particularly by women, in visiting infected houses, and often by taking young children with them.

*Scarlet Fever*.—No death was registered from this disease.

*Enteric Fever*.—There was no death from this disease, as compared with two in 1904. The local sanitary conditions were inspected in all cases and any defects reported. Disinfectants were left at the houses, together with leaflets with instruction given as to the precautions to be taken.

*School Closure*.—Pencoed School closed one month on account of Scarlet Fever. Cefn and Bryndu School closed two months on account of Diphtheria. Tondy, Aberkenfig, Cornelly, Pontrhydcuff, closed on account of Measles.

#### GENERAL CONDITIONS.

*Water Supply*.—Wells repaired at Sker, Wainymere and Maudlam. Water schemes are prepared for Pencoed, but not carried out. The provision of a water supply for Pontrhydcuff and Llangynwyd is *still* under consideration.

*Sewerage and Drainage*.—Subsidiary sewers for St. Brides Minor, Brynmenyn, Tondy and Aberkenfig are completed, and some 500 houses connected thereto. Sewerage schemes for Kenfig Hill and Troedrihwgarth are *still* under consideration. A sewerage scheme is much needed for Coity, Coychurch, Kenfig Hill, Pencoed and Penprisk, Southerndown, St. Bride's Major and Wick. The overflow of slop sewage from stables, pig-sties, and manure heaps still continues into the main roads in many parts of the district.

*Slaughter-houses*.—The state of the slaughter-houses in Aberkenfig is said to be always unsatisfactory, and the erection of a public abattoir for this district is a prime necessity.

*House Accommodation*.—49 new houses have been erected and occupied during the year, and 23 are being built and 5 rebuilt. No houses were closed as unfit for human habitation.

*The Factories and Workshops* have been frequently inspected during the year, and their condition found fairly satisfactory.

*Scavenging* has improved at Aberkenfig. In the villages supplied with dust bins many of these have had to be removed owing to their being a nuisance.

#### IMPROVEMENTS.

Wells repaired at Sker, Wainymere, Maudlam, Tir-isha, St. Brides Major and Wick.

Completion of the subsidiary sewers for Brynmenyn, Tondy and Aberkenfig, and the connection of 500 houses therewith.

Completion of the subsidiary sewers for St. Brides Minor, and the connection of 121 houses therewith.

### REQUIREMENTS.

The sewerage of Pencoed, Kenfig Hill, Coychurch, Southerndown, Coity, St. Brides Major and Wick.

Isolation Hospital (nearly completed).

The closure or repair of dilapidated dwellings.

Improved water supplies for Pencoed, St. Brides Major, Llangynwyd and Pontrhydcuff.

A public slaughter-house at Aberkenfig.

### THE COUNTY ASYLUM.

The County Asylum is situated in the Penybont District, and below are given the statistics having reference to it.

Area in acres, 284·5 ; Density, 6·85.

Angelton, 82 ; Density, 10·61.

Parc Gwyllt, 202·5 ; Density, 4·32.

1891.	1901.	1905.
Population, 1,137.	1,983.	1,949.

Birth-rate, 1·54. Zymotic death-rate, 0·00. Erysipelas, 0·51. Influenza, 1·03. Phthisis, 18·47. Cancer, 1·54. Bronchitis, 0·51. Pneumonia, 3·08. Other Respiratory, 2·05. Heart Disease, 6·16. Digestive, 0·51. Nervous, 31·81. All other causes, 19·49, and total deaths from all causes, 85·17.

As the majority of the reports under review do not give particulars of the deaths of persons from their district at this Asylum, it is evident that the various death-rates are not correct as regards the districts from which this information is omitted.

### PONTARDAWE (Eastern Division).

Medical Officer of Health—DAVID THOMAS, M.D.

Area in acres, 10,352.

Population	1891.	1901.	1905.
.. ..	7,201	9,027	10,670 (estimated).
Birth-rate, 36·8.	Death-rate, 17·2.	Zymotic death-rate, 1·0.	Infant mortality-rate, 195·9.
Phthisis death-rate, 1·21.	Respiratory diseases death-rate, 3·56		

### INFECTIOUS DISEASES.

23 cases were notified during the year as compared with 178 in 1904. These included *Diphtheria and Membranous Croup* (5 cases) ; *Erysipelas* (4 cases) ; *Scarlet Fever* (8 cases, 2 deaths) ; and *Enteric Fever* (6 cases).

2 deaths are attributed to *Measles*, 2 to *Whooping Cough*, 3 to *Diarrhœa*, and 13 to *Enteritis*.

The *Diphtheria and Membranous Croup* cases occurred at Cwmtwrch, whilst 4 of the *Scarlet Fever* cases occurred at Gwaencacurwen, and 4 at Ystalyfera. In no locality did the disease show any tendency to spread.

*Measles*.—Two rather sharp outbreaks occurred, one at Ystalyfera early in January, and the other at Brynaman towards the end of the year. On these occasions the Infants' Departments of the Wern and the Banwen Schools respectively were closed for 14 days.

### GENERAL CONDITIONS.

*Common Lodging Houses*.—The only registered one in the district is at Godre'rgraig. It is well conducted and satisfactory as regards accommodation and cleanliness.

*The Dairies and Cowsheds* are 13 in number, and are well kept.

*The Slaughter-houses*, 14 in number, were frequently inspected and found in a satisfactory condition.

*Scavenging*.—It is expected that the night scavenging will be reduced considerably at Cwmgorse and Gwauncaegurwen, when the new sewer which is in course of construction will be completed.

Disinfection is said to have been carried out (mostly by formalin) in a great number of infectious diseases.

*Nuisances*.—A summary of work performed by the Inspector of Nuisances is appended.

### IMPROVEMENTS.

Extension of sewers at Panteg, Banwen and Wern, Ystalyfera.

Extension of water mains at Ystalyfera and Waunleyshon.

The sewerage of Cwmgorse and part of Gwauncaegurwen commenced.

### REQUIREMENTS.

Not specified.

## PONTARDAWE (Western Division).

Medical Officer of Health—GRIFFITH GRIFFITHS, M.R.C.S., L.R.C.P.

Area in acres, 25,356.

	1891.	1901.	1905.
Population .. .. .	10,174	11,904	12,930 (estimated).
Birth-rate, 35.7.	Death-rate, 15.0.	Zymotic death-rate, 1.77.	Infant mortality-rate, 118.2.
Phthisis death-rate, 0.77.		Respiratory diseases death-rate, 2.08.	

### INFECTIOUS DISEASES.

131 cases were notified, as compared with 136 in 1904. These included *Diphtheria and Membranous Croup* (26 cases, 6 deaths); *Erysipelas* (17 cases); *Scarlet Fever* (79 cases, 6 deaths); *Enteric Fever* (7 cases, 3 deaths); and *Puerperal Fever* (2 cases).



*Scarlet Fever*.—The Medical Officer of Health observes :—" 79 cases were notified during the year 1905, 6 of which proved fatal. As I have previously stated, the fever was of a very mild character, consequently children were allowed to mix freely with their playmates, until the parents noticed that their little one's skin was peeling or disquamating, then a medical practitioner would be consulted, and the disease recognised."

*Diphtheria*.—Of the 19 cases notified, 6 proved fatal as compared with 27 cases in 1904.

## GENERAL CONDITIONS

*Water Supply*.—Samples of water have been periodically examined and found wholesome and satisfactory.

*Slaughter-houses*.—There are 16 of these, to which 72 visits of inspection were made and 17 nuisances abated.

*Scavenging*.—This has been carried out both by day and night in various parts of the District.

*Nuisances*. Some 75 notices were served ; 14 of which referred to structurally defective houses.

*Sewerage*.—The sewage disposal works of Pontardawe are now in full working order.

*Workshops*.—These—68 in number—were inspected 117 times during the year, and were found in a satisfactory state.

*Dairies and Cowsheds*.—These were inspected 37 times during the year, and found satisfactory.

## IMPROVEMENTS.

Extension of water mains in various parts of the District.

## REQUIREMENTS.

Public urinals in various parts of the District, more especially in the vicinity of Pontardawe Police Station.

## SWANSEA (Llangyfelach Division).

Medical Officer of Health—E. RICE MORGAN, M.R.C.S., L.S.A.

Area in acres, 9,803.

	1891.	1901.	1905.
Population .. .. .	10,528	10,208	10,748 (estimated).
Birth-rate, 31·0.	Death-rate, 15·4.	Zymotic death-rate, 1·85.	Infant mortality-rate, 147.
Phthisis death-rate, 0·80.		Respiratory diseases death-rate, 2·88.	

## INFECTIOUS DISEASES.

102 cases were notified, as compared with 230 in 1904. These included *Diphtheria and Membranous Croup* (15 cases, 3 deaths) ; *Erysipelas* (2 cases) ; *Scarlet Fever* (69 cases, 7 deaths) ; and *Enteric Fever* (16 cases, 1 death).

2 deaths occurred from *Measles*, 8 from *Whooping Cough*, and 1 from *Diarrhœa*.

*Diphtheria and Membranous Croup*.—Of the 15 cases notified, 9 occurred in Clase, none proving fatal ; while 6 were in Llansamlet, with 2 deaths.

*Scarlet Fever*.—69 cases were reported, 37 in Clase and 32 in Llansamlet ; 7 deaths occurred.

*Whooping Cough* was very prevalent in the early months of the year, and was the most fatal of the infectious diseases, as 8 deaths resulted, 3 in Clase and 5 in Llansamlet. It is stated that parents do not realise the danger and obtain proper medical treatment in the early stages of the complaint, when it is amenable to treatment.

*Enteric Fever*.—16 cases were notified—14 in Clase and 2 in Llansamlet. One death only occurred, at Llansamlet. The outbreak is stated to be due to local conditions—defective drains and gullies. The improvements necessary were carried out, and no fresh cases occurred after this was done.

## GENERAL CONDITIONS.

*Water Supply*.—The supply for Cwmrhydyceirw and neighbourhood from the Clasmont Springs has been provided, and when the smaller scheme for Pantlasse, which is under consideration, is completed, the Clase District will be fairly supplied. Bonymaen District is very badly off for drinking water. There is a constant danger of the pollution of the various open springs, and in the summer time the supply is short.

*Drainage*.—The drainage of Grove and Tycanol Terraces have recently been reported upon and it is anticipated that they will soon be put in order.

*Dairies and Cowsheds*.—As a result of constant inspections these have been very much improved, although much remains yet to be done.

*Housing of the Working Classes*.—268 dwellings were inspected, and 27 reported unfit for human habitation. 15 were repaired, 6 closed, 1 demolished, and 6 have not yet been attended to.

## IMPROVEMENTS.

Provision of a water supply for Cwmrhydyceirw.

Relaying of portion of drain at Midland Terrace.

## REQUIREMENTS.

Not specified.

## SWANSEA (Llandilo-Talybont Division).

Medical Officer of Health—TRAFFORD MITCHELL, M.D., D.P.H.

Area in acres, 21,313.

	1891.	1901.	1905.
Population .. .. .	17,643	19,782	21,320 (estimated).
Birth-rate, 32·4.	Death-rate, 13·6.	Zymotic death-rate, 0·23.	Infant mortality-rate, 110.
Phthisis death-rate, 1·21.		Respiratory diseases death-rate, 2·90.	

### INFECTIOUS DISEASES.

87 cases were notified, as compared with 282 in 1904. These included *Diphtheria* (18 cases, 4 deaths); *Erysipelas* (14 cases, 2 deaths); *Scarlet Fever* (46 cases); *Enteric Fever* (6 cases); and *Puerperal Fever* (3 cases).

No deaths occurred from either *Measles* or *Diarrhoea*, and only 1 from *Whooping Cough*.

*Diphtheria*.—The 18 cases of this disease were distributed throughout the year, and were scattered over the whole District. The only District where the disease assumed the character of an outbreak was at Penllergaer, where five cases occurred, and the cause of its spread is said to be probably due to the crowding of the neighbours in to see the patients.

*Enteric Fever*.—6 cases were notified, and none proved fatal. 2 cases occurred at Gorseinon, and one at a dairy farm, and the case was removed to hospital; no definite source of infection being discovered.

2 cases occurred at Pontardulais, the second being that of the scavenger who cleaned out the pail closets of the first patient's house. The second patient was removed to hospital. Typhoid Fever is every year present in Pontardulais, the water supply being highly liable to pollution, and drainage being non-existent. One mild case of unknown origin occurred at Gowerton.

*Scarlet Fever*.—46 cases were notified during 1905, and none proved fatal. One case of wilful exposure occurred, the patient and his guardian having been discovered by the Medical Officer of Health in a barber's shop a mile from home three weeks after the onset of the fever. A prosecution ensued, and a fine of £2 10s. was imposed.

*Isolation Hospital*.—17 cases of Scarlet Fever, 16 of Diphtheria and 13 of Typhoid were admitted to the Garngoch Fever Hospital. A Charge Nurse and a Probationer have lately been appointed, additional nurses being obtained from Swansea Nursing Institute when required.

### GENERAL CONDITIONS.

*Water Supply*.—The supply is said to be utterly inadequate. The Council have, however, now prepared a scheme for the supply of Cray water for all the five parishes in this Division, and application has been made to the Local Government Board for sanction to the loan.

*Drainage, &c.*—Plans for the drainage of Gorseinon and Pontardulais have been prepared, and a Local Government Board inquiry applied for. Further improvements in connection with the Gowerton

Sewer are contemplated in the immediate future, as regards the extension of the tidal portion of the river. A sewer is urgently required in Sketty. The drainage scheme for Lower Loughor is still under discussion.

*Disposal of Refuse.*—Much improvement has taken place in the removal of refuse ; the pail closets have been well attended to and the removal of house refuse much more regular than in past years.

*Housing of the Working Classes.*—50 houses were certified as unfit for human habitation, and, of these, 14 have been demolished, 14 closed, and 2 are in process of repair.

*Burial Grounds.*—A Local Government Board Inquiry was held at Sketty during the year, with reference to having the Sketty Churchyard closed on the ground that future burials would be too close to the walls of the Church.

Application has been made to the Local Government Board for leave to extend Mynyddbach Chapel Burying Ground.

*Houses Let in Lodgings.*—The number of these is considerable, yet none have been registered under the bye-laws. They are said to be, on the whole, in a fairly satisfactory state.

*Slaughter-houses.*—Since the adoption of the new bye-law the condition of the slaughter-houses has vastly improved. Some old ones have been discontinued, others have been altered to meet the requirements, and several new ones have been provided. The number of slaughter-houses is now 21, of which three have not yet been granted registration on account of minor structural defects.

*Dairies, Cowsheds and Milkshops.*—There are 111 dairies, 122 cowsheds, 2 milkshops, and 445 cows in cowsheds. Their condition is on the whole satisfactory.

5 cases of Scarlet Fever, 1 of Typhoid Fever, and 1 of Diphtheria occurred on dairy farms during the year, and all the patients were removed to hospital.

*Factory and Workshop Acts.*—There are now 173 workshops and workplaces on the register. Frequent inspections were made and one case of overcrowding discovered, which was promptly remedied. 14 notices to limewash, cleanse or purify were served, and duly complied with. No legal proceedings were required.

*Schools and School Closure* is dealt with at some length.

## IMPROVEMENTS.

250 dwelling houses, 3 shops, 3 stables, 4 slaughter-houses, erected.

New road constructed, Kimberley Road, Sketty, and 250 feet of boundary wall for the same.

Water main laid in Westfield Road, Waunarlwydd.

Grounds of Garngoch Fever Hospital laid out.

## REQUIREMENTS.

Small Pox Hospital.

Improved water supply for Gorseinon, Pontardulais, &c.

Sewerage works for Gorseinon, Pontardulais, Sketty, &c.



## PORT SANITARY DISTRICTS.

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### CARDIFF.

Medical Officer of Health—E. WALFORD, M.D., D.P.H.

The Port Sanitary Authority of Cardiff was constituted in the year 1882, and the only portion of the Administrative County of Glamorgan under the jurisdiction of this Authority is Penarth Dock.

### PENARTH DOCK.

#### INFECTIOUS DISEASES.

All vessels are boarded on arrival, whether from foreign or coastwise, and enquiries made as to the health of the crew, and if there is or has been any sickness on the voyage, a copy of regulations as to Infectious Diseases is handed to every Master. In addition to tide work, the Inspector on day duty also visits and examines the ships in docks, &c. On the 11th May, the Medical Superintendent of the Seamen's Hospital notified a case of Typhoid Fever, A. R., age 24 years, a scaman, on board the French barque "Duplex," lying in Penarth Dock, had been attending as an out-patient for some time. On the 9th May he was detained at the Hospital and subsequently developed Typhoid Fever, and on the 11th was removed to the Sanatorium. The crew spaces were disinfected, and the patient's effects, together with a quantity of bedding, &c., from the Hospital, were removed for disinfection, and the water-tanks on board the ship were emptied and cleansed.

#### HOSPITAL ACCOMMODATION.

The Cardiff Port Sanitary Authority possess well-equipped Hospitals—

- I. For *Small Pox* (within the Borough).
- II. The Flat Holmes Island Hospital for *Cholera*, *Yellow Fever* and *Plague*.

### BARRY.

Medical Officer of Health—GEORGE NEALE, L.R.C.P.

The Barry Port Sanitary Authority was constituted in 1893. The floating population is roughly estimated at 1,200 persons, and the number of seamen dealt with was 68,452.

#### INFECTIOUS DISEASES.

During the year 21 vessels entered the port from infected or suspected ports, and were dealt with in accordance with the Local Government Board's Regulations of November, 1896. The number of persons examined by the Medical Officer of Health was 719, and the names and addresses of all persons leaving the ships were taken and forwarded to place of destination.

The cases of illness consisted of *Small Pox* 12, *Phthisis* 1, *Pneumonia* 2, *Syphilis* 1, *Typhoid Fever* 11, *Malarial Fever* 6, *Influenza* 3, *Beri-Beri* 1, *Dropsy* 2, *Diarrhœa* 5, *Bronchitis* 1, *Dysentery* 1, and *Rheumatism* 1.

#### INSPECTION OF SHIPPING.

2,979 vessels were inspected ; 2,585 were found in a fair condition, and 394 in a more or less defective or insanitary state. Systematic inspection of shipping is efficiently performed by the inspectorial staff, and, as a rule, very little difficulty was experienced in obtaining compliance with the necessary notices.

## HOSPITAL ACCOMMODATION.

The Port Sanitary Authority has the use of the Infectious Diseases Hospital belonging to the Barry District Council for their Small Pox cases. Up to the present this Institution has been used for no other purpose.

## SWANSEA.

Medical Officer of Health—EBENEZER DAVIES, M.R.C.S., L.S.A.

Assistant Medical Officers of Health—	{	Dr. ALFRED HANSON, Swansea.
		Dr. J. ARNAULT JONES, Port Talbot.
		Dr. E. VERNON PEGGE, Briton Ferry.
		Dr. J. D. ALEXANDER, Porthcawl.

The Swansea Port Sanitary Authority has jurisdiction over the ports of Neath, Port Talbot, and Porthcawl.

The following table shows the number of vessels inspected, and the number of nuisances and defects dealt with.

Districts.	Number of Vessels.			Number of Crew.	Nuisances Abated.
	Foreign.	Coastwise.	Total.		
Swansea .. ..	1,051	4,410	5,461*	64,868	1,450
Neath .. ..	159	618	777	7,670	21
Port Talbot .. ..	293	801	1,094	16,046	129
Porthcawl .. ..	—	1	1	7	1
Total .. ..	1,503	5,830	7,333	88,591	1,601

\* Including steam trawlers inspected.

The number of cases of sickness or injury that came to the knowledge of the officers was 165. Three cases of Enteric Fever were notified, two of which were subsequently found to be cases of Enteritis ; all the other cases were non-notifiable.

*Port Sanitary Regulations.*—After considerable alteration and amendment, regulations for the removal to hospital of persons suffering from dangerous infectious disorders arriving or being within the district on shipboard have been submitted to the Local Government Board for approval. It was sought to insert a clause under which the Master of any ship, or any other person in charge of such ship, should be required to answer truly all such questions put to him by the Medical Officer of Health as might be necessary for the purpose of the regulations, in regard to the name and intended place of destination and address of persons leaving the ship, and rendering any person who should knowingly give or notify false information liable to a penalty.

This clause was ruled to be beyond the scope of the Regulations.

## APPENDIX.

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*A Copy of a Memorandum recently issued, by the National Association for the Prevention of Consumption and other forms of Tuberculosis, to Local Sanitary Authorities :—*

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION has now for eight years been engaged, with a considerable amount of success, in the dissemination of knowledge as to the infectious character of pulmonary consumption and other forms of tuberculous disease, the conditions under which it may be conveyed, and as to the measures by means of which its communication from those affected to the healthy may be prevented.

### PREVENTION OF CONSUMPTION A NATIONAL AND INTERNATIONAL QUESTION.

It has always been the view of the National Association that the prevention of consumption was a social question of vast consequence, that it was an important branch of sanitary science and public health, and that Authorities charged with the responsibility of protecting the community from preventable disease ought to regard it as a duty to take an active part in this work.

Of such importance is the prevention of tuberculous disease considered that it has been made an International question demanding the co-operation of all civilised peoples. An International Central Bureau has been established, which has its seat at Berlin. A National Congress was held in London in 1901, and International Tuberculosis Congresses were held in Berlin in 1902 and in Paris in October, 1905.

At this last Congress it was emphasised that the chief object to be held in view in the campaign against tuberculosis was not simply the care and treatment of the individual sufferer, but the protection of the community.

### COST TO NATION.

In England and Wales there are 60,000 deaths from consumption and other forms of tuberculosis every year. This loss of life, which exceeds that from all other forms of infectious disease put together, is all the more serious from the fact that consumption is most prevalent from the age of fifteen onwards to forty-five or fifty, the working and wage-earning period of life, when a man ought to be at his best and of greatest service to the community. The protracted course of the disease moreover exhausts the resources of the family ; and, when it is the bread winner who is attacked, leads to poverty and privation, which pre-dispose the children to all forms of disease. Very often the family comes upon the rates, and the sufferer drifts into the workhouse infirmary. The direct cost and indirect loss to the country occasioned by consumption may be reckoned in tens of millions of pounds.

### PREVENTION POSSIBLE.

It is known that this terrible disease can be prevented ; and the National Association has resolved to address a memorial to every public Authority, directly or indirectly responsible for the public health, urging upon their attention the duty of exercising all the powers vested in them for the attainment of this end. Anything that can be done by public Authorities to prevent infection and to remove the conditions under which it is likely to take place, ought to be done, and it is the part of the Association to show what can be done, and by what means it may be done.



### CONSUMPTION INFECTIOUS—HOW SPREAD.

It is scarcely necessary now to explain that, under certain conditions, consumption is a communicable disease, and that the cause of it, and of other tuberculous affections, is a microbe, the tubercle bacillus; that these bacilli are present in countless millions in the expectoration of those affected; and that they obtain access to the lungs, and to food, in the form of dust, after the expectoration has dried on floors, walls, furniture, carpets, clothing, bed-clothes, pocket-handkerchiefs, &c., and has been pulverised and dispersed in the air of a room. They are also dispersed in the air of a room as spray in the act of coughing.

The microbes are most abundant in the copious sputum of advanced cases, which will usually be confined indoors, and, towards the end of life, in bed. But many people are spitting freely whilst still able to go about; and so workrooms, public houses, lodging houses, hotels, public buildings, and places of resort of all kinds, railway and other carriages, cabs, trams, and 'buses, are contaminated. Ladies' dresses may even collect expectoration on the pavements, and this, when dried and turned into dust at home, may infect members of the household. If all the expectoration could be at once destroyed as soon as it is coughed up the disease would be intercepted at its source, and would soon become comparatively rare.

### METHOD OF PREVENTION.

The chief problem before public Authorities, therefore, is the destruction of the expectoration. In order that this may be secured, all phthisical patients, at whatever stage, must be under supervision; and must be instructed as to the danger to themselves and others which arises from the sputum, especially under conditions which favour the persistence of its virulence, such as dark, ill-ventilated, badly-drained, dirty dwellings. They must be surrounded by precautions against its dissemination, and, when necessary, must be removed and isolated.

The task is a formidable one, and is beyond the power of any single existing Health Authority; but by the co-operation of the Poor Law Medical Officers, of the Medical Officers of Health, of Hospitals and Dispensaries, and the organisation of these combined efforts under municipal authorities, county, or urban and rural, or district councils, the disease may be grappled with and repressed.

### THREE CLASSES OF CASES.

The sufferers from pulmonary consumption may be divided roughly into three classes, which have to be dealt with separately. (1) The advanced cases unfit for work and mostly confined to the house. (2) Patients not yet seriously ill; able, perhaps, to work or to attend to business or household duties, going about in railway carriages and public vehicles, mixing freely with the general population, frequenting public houses, places of entertainment, hotels, lodging houses. (3) Those in quite an early stage, coughing much, perhaps, but spitting little, capable of all the ordinary duties of life.

The first item in the programme of prevention will be to ascertain how many cases of each of these groups there are in a given area, and where they are.

### VOLUNTARY NOTIFICATION.

This will be effected by notification. Voluntary notification has been in operation in eighteen out of the twenty-nine London boroughs; and in Manchester, Liverpool, Brighton, and many other towns, and has been most successful in its operation. It is compulsory in Sheffield; but so large a proportion



of the existing cases are brought to light without compulsion, a measure which may be regarded by some as extreme, that notification need be obligatory only on Poor Law Medical Officers, and perhaps on hospitals and dispensaries.

#### DOMESTIC ISOLATION OF ADVANCED CASES.

A certain proportion of the advanced cases, whether in town or country, could be so far surrounded with precautions that they might, with comparative safety, be taken care of at home. The room and house would be disinfected; the expectoration would be received into suitable spittoons and destroyed, and paper handkerchiefs or rags would be used and burnt; the windows would be kept open night and day; moist cloths would be employed instead of brushes and dusters; the food would be regulated. Children would, if possible, be removed. Among the very poor, extra parish relief, or charitable assistance in the form of nourishment, might be given conditionally on obedience to hygienic instructions. The visits of ladies and inspectors would ensure these precautions being efficiently carried out.

#### INSTITUTIONAL ISOLATION.

Cases, in which from the character of the dwellings and surroundings, and, it must be added, of the patient and family, no regulation could be carried out, would be removed to infirmaries or institutions specially provided; and it is very desirable that the stigma of pauperism should not be added to the sting of poverty by such removal, since this is for the protection of the community, and not merely for the benefit of the patient, though it would add to his comfort, and prolong his life. Most of these cases would sooner or later find their way into the workhouse infirmaries; and their admission into homes would only anticipate this transfer by a short time, and would not, therefore, involve much expense; whilst if they remained at home, they would be centres of infection, and, by communicating the disease to others, would lay the foundation of future expenditure. The segregation and isolation of advanced cases may be recommended with greater confidence from the fact that the statistical investigations of Dr. Newsholme have shown that the greater diminution in the death-rate from consumption in this country, as compared with France and Ireland, has probably been in a large measure due to the isolation effected by the reception of so many advanced cases into workhouse infirmaries as well as to the sanitary measures which local Authorities have carried out.

It is in dealing with these advanced cases that Municipal and County Council forethought, activity, and energy would find their opportunity. By their enterprise and organisation, the dissemination of consumption would be most effectually counteracted. It should be remembered that while the immediate beneficial results would most directly concern the poor, it is chiefly in the advanced cases among the poor that the bacilli are produced, some of which, escaping destruction, ultimately reach and invade the more fortunate classes, who are otherwise shielded against tuberculosis by sanitary houses, abundant nourishing food, and favourable circumstances generally.

#### SPITTING TO BE FORBIDDEN.

In the case of consumptives who, while at work or going about as if well, are spitting up considerable quantities of muco-pus crowded with bacilli, the protection of the community will be mainly indirect. Spitting ought to be forbidden in all places of public resort, particularly in workshops, workrooms, public houses, public conveyances, and much frequented places generally, in which the air is warm and rebreathed, and liable to be charged with suspended dust. The National Association can congratulate itself that through its persevering remonstrances spitting in public places has been made a punishable offence in London, Liverpool, and elsewhere.

A more direct and efficacious means of preventing the dissemination of the germs of consumption by these sufferers would be the habitual employment of pocket spittoons and paper handkerchiefs, the former to be disinfected by boiling and antiseptics, the latter to be burnt. This is inculcated among the out-patients of consumption hospitals, and educational means of various kinds have been employed—lectures, cards to be hung in workshops and houses, leaflets of simple instructions distributed wholesale, &c. Sanatoriums also are great practical educational centres in this respect.

#### SANATORIUM TREATMENT OF EARLY CASES.

For the early, and probably curable, cases, Sanatoriums ought to be provided, but this will require much time and money ; and meanwhile, for the protection of the community, the effective supervision of cases sufficiently advanced to be giving off large numbers of the specific microbes will be more important.

#### HYGIENIC PREVENTIVE MEASURES.

While by the measures indicated, efforts would be directed to the interception of the disease germs at the source, every possible means should be taken to increase the constitutional resistance of the individual to their invasion. Tuberculosis follows in the train of poverty, and the way is prepared by overcrowding, underfeeding, and dirt. The better housing of the poor ; ample space, with sunlight and ventilation ; abundant, wholesome, well-cooked food ; abstinence from stimulants ; domestic and personal cleanliness, would at once diminish the incidence of consumption. These alleviations of the lot of the poor, and improvements in the conditions under which they live, have always been advocated by the National Association, but they raise the whole question of poverty and its relief. The attainment of all these objects would mean the extinction of poverty. Even then there would remain to be accomplished a complete revolution in the character, habits, principles, inclinations, and modes of life of the poorest classes, for the improvement to be permanent. Improvidence, self-indulgence and idleness, carelessness, and indifference to cleanliness, would very soon reproduce all the evils of poverty. Until the abolition of poverty enters the domain of practical politics, the Association, in its endeavours to extinguish tuberculosis and protect the community from its ravages, being unable so far to modify the soil as to render it unsusceptible, must direct its efforts to the destruction of the seed. This, to a great extent, is practicable.

#### PHTHISIS A CAUSE AS WELL AS CONSEQUENCE OF POVERTY.

While, however, poverty, with its allies, vice and shiftlessness, is perhaps the chief predisposing cause of consumption, consumption is, in turn, a great cause of poverty. Out of 4,000 consumptive paupers under the care of Dr. Nathan Raw in Liverpool, into whose history he made careful enquiry, 60 per cent. became paupers because they were phthisical, and not phthisical because they were poor.

#### MILK AND TUBERCULOSIS.

Another agency through which tubercle bacilli may be distributed is milk, and the attention of Sanitary Authorities, especially municipal authorities, should be directed to the supply of milk free from such contamination ; but local circumstances are so diverse that the Association is not prepared to make any general recommendations on the subject beyond the exercise of the powers already possessed by Sanitary Authorities.

The National Association does not presume to give definite advice to Public Authorities as to the methods by which preventive measures may best be carried out, since these will vary in detail according to local conditions.

Suggestions, however, may be offered, founded on experience already obtained.

## NOTIFICATION.

I. Voluntary notification is of the greatest importance. There can be no efficient prevention of consumption without it, and where adopted it has excited no opposition.

## INSTITUTIONAL ISOLATION.

II. Another suggestion arising out of experience is that notification should always be accompanied by an offer of aid in combating the disease. Where practicable, this should be institutional treatment in hospitals, homes, or sanatoriums, or removal to better rooms or houses. Notification ought not to be a barren procedure. The Medical Officer of Health should have power to direct the removal of all cases requiring it to appropriate institutions.

Under Section 131 of the Public Health Act of 1875 full powers are given to any local authority to provide hospitals or places of reception for its sick.

A deputation of the Council of the National Association waited on the President of the Local Government Board, and were officially informed that these powers would include the prevention and treatment of tuberculosis, and that any application to borrow money for the purpose of providing sanatoriums would be favourably considered by the Local Government Board.

## EMPLOYMENT OF UNOCCUPIED ACCOMMODATION.

III. There are in some parts of the country considerable numbers of unoccupied beds in isolation hospitals provided for infectious diseases ; in others, vacant wards in workhouses or workhouse infirmaries. In London there are some thousands of beds lying empty at Gore Farm, and elsewhere, provided for small pox, some of which might be made available for all classes of cases of consumption.

Such accommodation might be used with due precautions for the isolation of advanced cases, as sanatoriums, and for educational sanatorium work. At Brighton, for example, a certain number of early cases receive sanatorium treatment in the vacant wards of the fever hospital for a month. They are educated in open-air methods and then return home and often to work, with instructions to destroy all expectoration, to observe the rules of domestic and personal cleanliness, and of wholesome feeding, and to keep up free ventilation night and day by open windows and unstopped chimneys. In six months, if the instructions have been satisfactorily carried out, they are readmitted for another month of feeding up and sanatorium treatment, and they are so conscious of benefit derived that they are eager to qualify for the further term. The families profit equally with the patient by the improved domestic hygiene, and an example is set which is often followed in neighbouring households, while other cases are led to seek advice in an early stage.

## CO-ORDINATION OF EFFORTS.

IV. The Medical Officer of Health ought to be in close relation with all the charitable and philanthropic organisations of his district, so as to be able to command, after due inquiry, assistance for phthisical patients and their families. By the co-ordinated efforts of the Medical Officers of Health, of Health Visitors, and Charitable Societies, money might be made to serve the double purpose of relieving suffering and preventing consumption, which is a great cause of poverty.



## SPECIAL TUBERCULOSIS COMMITTEE.

V. In large towns a special committee might well be appointed to deal with tuberculosis in all its aspects, composed of members of the municipal council, together with co-opted members likely to be of service.

## WORK OF TUBERCULOSIS COMMITTEE.

VI. The cases brought to light by notification would be reported to such a committee, which would arrange for the visits of lady health visitors and sanitary inspectors, for the disinfection of the dwelling, and general preventive supervision. By the knowledge thus obtained the council would, after due inquiry, be in a position to classify the cases, and to say what course should be adopted with regard to them; whether they could safely be treated at home, and, if so, what assistance should be given, or whether they ought to be removed.

## ALMONERS.

VII. The Committee, again, might arrange that cases coming to the out-patient departments of hospitals or dispensaries should be followed up by almoners, who would emphasise and supplement the instructions given by the physicians and surgeons of these institutions, and aid in carrying out disinfection and hygienic measures. In case of need, the almoners might be empowered to recommend the giving of assistance in the form of food.

## DISINFECTION OF DWELLINGS.

VIII. The disinfection of houses in which a consumptive person has lived and, especially, has died, should be secured before such houses are occupied by another family; a precaution perhaps even more necessary in country villages than in towns; and it is imperatively demanded in sea-side lodging houses, and boarding houses at health resorts frequented by consumptive invalids. Hotels also should be warned of the danger of infection being left behind by guests; and the filthy habit of spitting, in beer houses, public house bars, and railway refreshment rooms should be punished and repressed. Tenement houses and common lodginghouses in which consumptives live should be kept under strict supervision; and inspection of workshops and factories, and of their sanitary arrangements, should be systematically carried out.

## SPITTOONS.

IX. Other ways in which such a Committee might be of service would be by supplying cheap simple bottles or flasks, to be used as pocket spittoons, for patients whether lying at home or attending as out-patients; and by enforcing bye-laws against spitting. ]

X. Educational measures, such as lectures by medical men, the distribution of cards and leaflets, simple instruction in the elementary schools, would also come within the competence of such a committee.

## DUTY OF PREVENTION EMPHASISED.

The great principle, however, for which the National Association for the Prevention of Consumption contends is that the protection against tuberculosis is as much a duty of Sanitary Authorities as protection



against typhoid fever ; and that the destruction of expectoration containing tubercle bacilli and the supervision of advanced cases of phthisis form as important a demand of sanitary science as the disinfection of enteric stools and urine ; and that in the interests of the poor the contamination of the air of their dwellings by infective tubercle bacilli ought to be as effectually prevented as the poisoning of their drinking water by the bacilli of cholera or enteric fever. It may be added that every special precaution against consumption is a general precaution against all infectious diseases ; and at the same time conduces to the maintenance of the health and vigour of the entire community

Every year bears testimony to the lowering of the death-rate, and to the improvement in the public health brought about by Parliamentary sanitary enactments and municipal bye-laws, interpreted and carried out by health authorities from the Local Government Board downwards. It is the conviction of the National Association for the Prevention of Consumption that a further great opportunity lies ready to the hand of public authorities by the recognition of consumption as a contagious disease which can be prevented. They have it in their power to forward the realisation of the dictum of the King that "if preventable it ought to be prevented."

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION  
AND OTHER FORMS OF TUBERCULOSIS,  
20, HANOVER SQUARE,  
LONDON, W.

*February, 1906.*



TABLE I.

## Area, Population, Births, Deaths.

SANITARY DISTRICTS.  1	MEDICAL OFFICERS OF HEALTH.  2	Area in Acres.  3	Population, Census 1891.  4	Population, Census 1901.  5	Estimated Population, 1905.  6	BIRTHS.			DEATHS.			ANNUAL RATES PER 1,000 OF ESTIMATED POPULATION.					Infant- Mortality (Deaths in Children under 1 year per 1,000 Births). 18	Deaths in Public Institu- tions. 19	Deaths of Non- Resi- dents regis- tered in District. 20	Deaths of Resi- dents regis- tered beyond District. 21	DEATHS AT ALL AGES. NETT.		
						Males.  7	Females.  8	Total.  9	Males.  10	Females.  11	Total.  12	Birth Rate.  13	Death Rate.  14	Zymotic Death Rate.  15	Phthisis Death Rate.  16	Respira- tory Death- rate.  17					Number.  22	Rate.  23	
URBAN.																							
Aberavon Borough .. ..	J. Arnallt Jones, M.D., D.P.H. .. ..	2,060	6,300	7,553	7,871	154	153	307	..	..	119	39.0	15.1	0.63	0.76	2.66	162.0	..	..	..	119	15.1	
Aberdare .. ..	D. Davies, F.R.C.S. .. ..	15,127	38,431	43,365	48,000	867	768	1,635	..	..	880	34.06	18.33	2.95	0.04	3.70	198.1	..	..	..	880	18.33	
Barry .. ..	George Neale, L.R.C.P. .. ..	4,104	13,278	27,030	30,001	500	442	942	205	178	383	31.4	12.7	0.9	0.89	2.33	115.0	22	2	..	381	12.69	
Bridgend .. ..	Wyndham Randall, M.R.C.S., L.R.C.P. .. ..	629	4,676	6,062	7,085	98	111	209	..	..	132	29.5	18.63	3.16	1.83	1.60	114.8	33	25	6	113	15.05	
Briton Ferry .. ..	E. Vernon Pegge, M.R.C.S., L.R.C.P. .. ..	1,381	5,778	6,973	7,000	117	133	250	..	..	102	35.7	14.5	1.8	1.28	2.14	140.0	..	..	..	102	14.5	
Caerphilly .. ..	T. W. Thomas, M.R.C.S., L.S.A. .. ..	17,000	8,064	15,835	21,500	450	434	884	185	208	393	41.1	18.2	3.20	1.13	3.5	166.0	..	..	10	403	18.7	
Cowbridge Borough .. ..	R. M. Moynan, M.D. .. ..	84	1,377	1,202	1,202	10	9	19	..	..	13	15.8	10.8	0.83	0.00	2.4	52.6	..	..	..	13	10.8	
Glyncoerwg .. ..	Henry Davies, M.B. C.M. .. ..	10,220	3,683	6,452	7,500	..	..	270	..	..	141	41.53	21.6	4.0	0.4	3.4	159.2	..	..	..	141	21.6	
Maesteg .. ..	W. Kirkby, L.R.C.P., L.R.C.S. .. ..	6,709	9,417	15,012	21,123	404	384	788	195	154	340	37.3	16.09	2.2	0.56	4.26	162.4	2	..	9	349	16.5	
Margam .. ..	J. H. Davies, M.D. .. ..	18,347	6,274	9,014	10,500	170	181	351	73	72	145	33.42	13.8	1.42	0.56	1.42	148.14	1	..	..	145	13.8	
Merthyr Borough .. ..	D. Duncan, M.B., C.M., D.P.H. .. ..	17,714	59,004	69,228	73,848	1,386	1,424	2,810	..	..	1,678	38.0	22.0	4.6	1.29	5.59	204.0	175	51	..	1,627	22.0	
Mountain Ash .. ..	E. P. Evans, M.R.C.S., L.R.C.P. .. ..	10,554	17,826	31,093	37,000	792	731	1,523	..	..	645	41.1	17.4	2.18	0.89	3.91	191.07	..	..	9	645	17.4	
Neath Borough .. ..	J. M. Morris, M.A., M.B., C.M., D.P.H. .. ..	1,439	11,113	13,720	15,000	..	..	457	..	..	203	30.46	13.5	1.2	1.06	1.66	107.2	26	17	..	186	12.4	
Ogmore and Garw .. ..	D. J. Thomas, M.R.C.S., L.R.C.P.I. .. ..	17,926	13,800	19,907	22,000	504	508	1,012	..	..	346	46.0	15.7	2.63	0.59	2.76	143.2	..	..	..	346	15.7	
Oystermouth .. ..	A. L. Jones, M.R.C.S., L.S.A., D.P.H. .. ..	2,615	3,675	4,461	4,713	..	..	133	..	..	64	28.19	13.57	0.00	1.9	1.9	135.33	..	..	..	64	13.57	
Penarth .. ..	C. D. Musgrove, M.D. .. ..	2,798	12,424	14,228	14,500	188	177	365	..	..	186	25.1	12.8	1.3	0.96	2.41	106.8	..	..	..	186	12.8	
Pontypridd .. ..	Howard Davies, M.R.C.S., L.S.A. .. ..	8,000	24,763	32,316	35,942	646	646	1,292	..	..	706	36.0	19.6	4.46	0.94	3.7	181.0	74	47	7	666	18.5	
Porthcawl .. ..	J. D. Alexander, L.R.C.P.E., L.F.P.S.: .. ..	3,365	1,758	1,872	2,400	22	25	47	18	17	35	18.3	12.9	0.83	0.41	0.83	127.6	..	..	..	31	12.9	
Rhondda .. ..	J. D. Jenkins, M.D., B.S., D.P.H. .. ..	23,545	88,351	113,735	124,988	2,365	2,299	4,664	..	..	2,348	37.3	18.7	2.8	0.72	3.88	199.0	24	1	55	2,402	19.2	
RURAL.																							
Cowbridge .. ..	C. Booth Meller, M.R.C.S., L.R.C.P. .. ..	39,785	6,094	6,834	7,600	106	103	209	46	48	94	27.5	12.3	1.4	1.18	1.57	105.2	..	..	..	94	12.3	
Gelligaer and Rhigos .. ..	W. W. Jones, M.D., D.P.H. .. ..	22,985	13,718	18,181	25,150	491	485	976	255	204	459	38.8	17.8	3.8	1.03	3.7	153.0	..	..	..	459	17.8	
Gower .. ..	A. E. Mole, M.B., C.M. .. ..	50,275	7,432	7,266	7,266	..	..	192	..	..	119	26.1	16.3	0.82	0.62	2.61	88.5	8	..	..	119	16.3	
Llandaff and Dinas Powis .. ..	Richard Pritchard, M.D., D.P.H. .. ..	65,469	18,539	23,047	25,327	359	357	716	181	165	346	28.27	13.66	1.18	0.82	2.88	99.0	..	..	..	346	13.6	
Llantrisant and Llantwit Fardre .. ..	W. N. Davies, M.D. .. ..	18,232	9,370	11,845	12,097	..	..	509	..	..	214	42.0	17.6	2.72	0.90	3.3	135.0	..	..	..	214	17.6	
Neath .. ..	T. P. Whittington, L.R.C.P., L.R.C.S. .. ..	52,844	22,931	27,343	28,021	589	539	1,128	262	225	487	40.28	17.39	1.99	0.96	3.03	150.0	..	..	2	487	17.39	
Penybont .. ..	Wyndham Randall, M.R.C.S., L.R.C.P. .. ..	40,023	14,331	16,564	15,891	257	258	515	133	124	257	32.41	16.24	1.76	0.50	4.09	124.2	166	160	9	257	14.40	
Pontardawe—																							
East Division .. ..	D. Thomas, M.D. .. ..	10,352	17,374	20,933	10,670	219	174	393	97	87	184	36.8	17.2	1.0	1.12	3.56	195.9	..	..	..	184	17.2	
West Division .. ..	G. Griffiths, M.R.C.S., L.R.C.P. .. ..	17,971			12,930	248	214	462	111	88	199	35.7	15.0	1.77	0.77	2.08	118.2	7	5	..	194	15.0	
Swansea—																							
Llangyfelach Division .. ..	E. Rice Morgan, M.R.C.S., L.S.A. .. ..	10,001	27,488	29,990	10,748	148	184	332	94	68	162	31.0	15.4	1.85	0.80	2.88	147.0	..	..	..	162	15.4	
Llandilo-Falybont Division .. ..	Trafford Mitchell, M.D., D.P.H. .. ..	20,893			21,320	325	365	690	140	150	290	32.4	13.6	0.23	1.21	2.90	110.0	4	..	7	297	13.9	







TABLE II.

## Deaths at certain Ages and from Specified Causes.

SANITARY DISTRICTS.  1	DEATHS AT SUBJOINED AGES.							CAUSES OF DEATH.																																			
	Under 1 Year. 2	1 and under 5. 3	5 and under 15. 4	15 and under 25. 5	25 and under 65. 6	65 and upwards. 7	At all ages 8	Small-pox. 9	Measles. 10	Scarlet Fever. 11	Whooping Cough 12	Diphtheria and Membranous Group. 13	Croup. 14	FEVERS.			Epidemic Influenza. 18	Cholera. 19	Plague. 20	Diarrhoea. 21	Enteritis. 22	Puerperal Fever. 23	Erysipelas. 24	Other Septic Diseases. 25	Phthisis. 26	Other Tubercular Diseases. 27	Cancer, Malignant Disease. 28	Bronchitis. 29	Pneumonia. 30	Pleurisy. 31	Other Diseases of Respiratory Organs. 32	Alcoholism, Cirrhosis of Liver. 33	Venereal Diseases. 34	Premature Birth. 35	Diseases and Accidents of Parturition. 36	Heart Diseases. 37	Accidents. 38	Suicides. 39	Inquests. 40	All other Causes. 41			
														Typhus. 15	Enteric. 16	Other continued. 17																											
URBAN.																																											
Aberavon Borough .. ..	50	4	3	5	36	21	119	..	1	..	..	1	..	..	..	2	..	..	3	4	..	..	..	6	..	4	7	13	1	..	3	..	14	1	21	2	..	..	36				
Aberdare .. ..	324	144	39	27	241	105	880	..	50	28	13	18	2	..	4	..	..	30	..	4	..	..	1	..	21	..	32	71	105	2	..	..	..	..	..	..	..	..	..	56	439		
Barry .. ..	109	54	22	26	130	40	381	..	..	4	7	8	3	..	3	1	..	..	8	9	2	1	..	47	7	13	26	44	3	5	2	..	24	5	36	20	1	..	102				
Bridgend .. ..	24	8	2	10	41	28	113	..	2	..	3	..	..	..	16	..	2	..	1	..	..	1	2	13	4	5	5	6	1	5	3	..	1	..	6	..	1	..	36				
Briton Ferry .. ..	35	14	4	2	38	9	102	..	..	4	6	2	1	..	..	..	..	..	2	..	..	..	2	..	9	1	2	6	9	..	..	..	..	4	..	11	1	..	..	44			
Caerphilly .. ..	147	70	19	23	76	68	403	..	19	4	26	5	1	..	1	..	4	..	..	14	11	2	2	1	24	12	14	17	59	..	3	1	..	14	..	25	12	2	8	130			
Cowbridge .. ..	1	..	..	..	6	6	13	..	..	..	..	..	..	..	..	..	2	..	..	1	1	..	..	..	..	..	3	..	..	..	..	..	..	..	4	..	..	..	2				
Glyncorwg .. ..	43	41	4	10	30	13	141	..	25	1	5	2	..	..	3	..	..	..	6	..	..	..	1	3	3	3	8	18	..	3	1	..	5	..	5	3	..	..	46				
Maesteg .. ..	128	41	14	26	90	47	349	..	12	2	4	1	..	..	4	..	4	..	..	20	7	..	..	6	12	3	8	33	52	..	4	3	1	15	3	22	22	1	..	110			
Margam .. ..	51	23	5	7	34	25	145	..	5	..	10	..	..	..	..	..	..	..	2	3	1	..	..	..	6	3	7	6	9	..	10	..	..	6	10	6	4	..	..	60			
Merthyr Borough .. ..	576	284	49	71	467	180	1627	..	130	21	12	22	4	..	14	..	12	..	..	135	8	6	1	7	96	27	37	174	232	7	5	11	4	51	2	..	49	8	..	552			
Mountain Ash .. ..	291	103	26	19	156	50	645	..	35	1	11	8	3	..	2	1	6	..	..	24	28	1	..	3	33	13	15	57	87	1	7	3	..	28	3	19	34	..	..	223			
Neath Borough .. ..	49	16	9	11	65	36	186	..	1	..	..	3	1	..	1	..	1	..	..	13	1	1	1	1	16	8	7	7	18	..	1	..	..	4	4	19	11	..	..	66			
Ogmore and Garw .. ..	145	72	7	13	71	38	346	..	29	..	6	4	1	..	1	..	2	..	..	18	11	6	..	1	13	7	9	26	35	..	9	..	..	12	..	13	1	..	..	142			
Oystermouth .. ..	18	..	2	5	17	22	64	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	9	3	3	4	5	..	..	2	..	9	1	7	..	3	..	12				
Penarth .. ..	39	21	7	11	77	31	186	..	10	..	1	1	..	..	4	..	..	..	..	12	..	1	1	1	14	3	11	14	21	..	1	2	..	17	3	23	6	..	..	41			
Pontypridd .. ..	234	149	28	24	161	68	664	..	54	9	36	9	2	..	2	..	2	..	..	48	6	4	1	1	34	11	13	43	90	..	4	5	1	17	6	24	11	2	24	205			
Porthcawl .. ..	6	6	2	3	3	15	35	..	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	2	..	..	..	..	1	..	3	2	1	..	..	21			
Rhondda .. ..	927	361	76	137	673	228	2402	..	84	11	55	16	3	..	16	..	13	..	..	172	20	4	2	15	91	38	64	192	293	4	..	11	2	62	12	..	..	..	277	945			
RURAL.																																											
Cowbridge .. ..	22	11	2	7	30	22	94	..	..	..	5	1	..	..	2	..	1	..	..	3	..	..	1	1	9	8	5	2	10	..	..	..	..	2	1	14	4	..	..	25			
Gelligaer and Rhigos .. ..	150	104	26	20	116	43	459	..	48	1	5	30	3	..	5	..	6	..	..	8	28	1	..	1	26	8	6	36	47	4	4	6	1	15	1	29	18	1	..	121			
Gower .. ..	20	8	6	11	22	52	119	..	1	..	..	1	1	..	1	..	..	..	3	3	1	..	..	5	2	10	11	7	..	1	10	..	2	..	..	6	..	..	54				
Llandaff and Dinas Powis .. ..	71	41	11	15	105	103	346	..	5	..	9	7	1	..	1	..	2	..	..	7	6	..	1	..	21	7	9	30	40	3	3	2	..	12	3	33	11	5	..	128			
Llantrisant and Llantwit Fardre .. ..	69	28	7	11	54	45	214	..	15	..	6	5	2	..	4	..	..	..	3	2	1	1	..	12	3	3	19	18	..	3	2	..	7	3	13	4	4	..	84				
Neath .. ..	170	58	14	23	142	80	487	..	18	6	9	7	1	..	1	3	15	..	..	12	13	1	..	..	27	14	13	30	51	1	4	3	1	14	4	39	22	..	..	176			
Penybont .. ..	64	34	10	7	75	67	257	..	14	..	5	8	1	..	..	..	4	..	..	1	2	..	..	..	8	3	8	29	34	..	2	3	..	8	3	29	5	2	..	87			
Pontardawe—																																											
East Division .. ..	77	24	2	17	40	24	184	..	2	2	2	..	..	..	..	..	..	..	..	3	13	..	2	3	13	6	4	29	9	1	..	..	..	15	6	13	9	..	..	52			
West Division .. ..	55	28	8	16	49	38	199	..	8	6	..	6	2	..	3	..	3	..	..	..	7	..	1	4	10	5	12	13	13	1	..	2	..	13	..	14	8	1	..	68			
Swansea—																																											
Llangyfelach Division .. ..	49	24	2	10	41	36	162	..	2	7	8	3	1	..	1	..	2	..	..	1	..	..	..	8	1	7	17	14	..	..	1	..	3	3	9	8	..	..	66				
Llandilo-Talybont Division .. ..	76	34	15	15	88	69	297	..	..	..	1	4	..	..	..	..	..	..	..	..	2	..	2	..	26	14	15	16	34	..	12	1	..	10	8	28	16	1	..	107			



TABLE III.

## Notification, Isolation, Adoptive Acts.

SANITARY DISTRICTS.	CASES NOTIFIED.											CASES REMOVED TO HOSPITAL.					
	Small Pox.	Scarlet Fever.	Diphtheria.	Membranous Croup.	FEVER.				Erysipelas.	Measles.	Whooping Cough.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Erysipelas.	Puerperal Fever.
					Typhus.	Enteric.	Con- tinued.	Puerperal.									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
URBAN.																	
Aberavon Borough .. ..	..	21	7	3	..	..	..	2	6	..	..	..	..	..	..	..	..
Aberdare .. ..	..	926	120	6	..	22	..	4	94	..	..	..	..	..	..	..	..
Barry .. ..	5	192	95	1	..	10	1	1	44	..	..	5	..	..	..	..	..
Bridgend .. ..	..	8	3	..	..	117	..	..	8	..	..	..	..	..	..	..	..
Briton Ferry .. ..	..	126	18	..	..	..	..	3	2	..	..	..	..	..	..	..	..
Caerphilly .. ..	3	93	69	..	..	4	..	2	6	..	..	..	..	..	..	..	..
Cowbridge .. ..	..	14	..	..	..	1	..	..	6	..	..	..	..	..	..	..	..
Glyncorwg .. ..	..	87	12	..	..	18	..	..	6	..	..	..	..	..	..	..	..
Maesteg .. ..	..	52	7	..	..	46	..	..	5	..	..	..	3	..	23	..	..
Margam .. ..	..	26	27	10	..	..	..	1	31	..	..	..	11	13	..	..	..
Merthyr Borough .. ..	1	334	132	..	..	95	..	7	68	..	..	1	74	53	56	8	1
Mountain Ash .. ..	..	82	40	5	..	13	..	2	22	..	..	..	15	4	7	5	..
Neath Borough .. ..	..	42	10	7	..	12	..	1	23	..	..	..	..	..	..	..	..
Ogmore and Garw .. ..	..	51	7	4	..	16	..	6	12	..	..	..	..	..	..	..	..
Oystermouth .. ..	..	1	..	1	..	2	1	..	10	..	..	..	..	..	..	..	..
Penarth .. ..	..	12	29	..	..	23	..	2	20	..	..	..	3	20	19	..	..
Pontypridd .. ..	10	185	95	6	..	17	..	5	26	..	..	10	..	30	15	1	..
Porthcawl .. ..	..	4	..	..	..	2	..	..	..	95	..	..	..	..	..	..	..
Rhondda .. ..	2	203	129	10	..	102	6	13	69	..	..	2	..	19	66	..	..
RURAL.																	
Cowbridge .. ..	..	17	10	..	..	7	..	..	9	..	..	..	..	..	..	..	..
Gelligaer and Rhigos .. ..	..	73	341	1	..	38	..	4	7	..	..	..	..	21	19	..	..
Gower .. ..	..	11	1	..	..	3	..	3	4	..	..	..	..	..	..	..	..
Llandaff and Dinas Powis .. ..	..	48	53	..	..	8	..	..	19	..	220	..	13	17	3	..	..
Llantrisant and Llantwit Fardre .. ..	..	45	33	1	..	4	1	2	8	..	..	..	..	..	..	..	..
Neath .. ..	..	151	32	10	..	16	..	4	26	..	..	..	..	..	..	..	..
Penybont .. ..	..	33	55	..	..	4	..	1	8	..	..	..	..	..	..	..	..
Pontardawe .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
East Division .. ..	..	8	3	2	..	6	..	..	4	..	..	..	..	..	..	..	..
West Division .. ..	..	79	19	7	..	7	..	2	17	..	..	..	30	..	1	2	..
Swansea—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Llangyfelach Division .. ..	..	69	14	1	..	16	..	..	2	..	..	..	1	..	9	..	..
Llandilo-Talybont Division .. ..	..	46	18	..	..	6	..	3	14	..	..	..	16	16	4	..	..



